INCORRECT PAGINATION

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SOME NEW JOTTINGS IN MY NOTE-BOOK. FIRST GATHERING.

BY A DREAMER.

From the Dublin University Magazine.

"I wish you saw me half starting out of my chair; with what confidence, as I grasp the elbow of it, I look up, catching the idea, even sometimes before it half-way reaches me!

"I believe in my conscience, I intercept many a thought which Heaven intended for another man."—STERNE.

"They tell but dreams."—MRS. HEMANS.

One.

THERE is one wish my heart has always faltered in, nor could I bring myself to give it to my friends; and yet it is so commonly spoken, and so generally esteemed a kind one, that it may appear extraordinary to refuse one's assent to it. I allude to the custom, on new-year's days, and birth days, and the other little eras of a person's life, of wishing him many returns of them. I do not think the prayer a good one, and have always paused in uttering it. And wherefore? Because I may not recognize in old age a blessing. I remember the altered form, the failing memory, the palsied mind, the closed-up heart—and I ask myself, Are *these* the goods I would give my friend? And more than these; I call to mind that those who live long, die over and over again in losing their beloved ones; and that hope, and joy, and health, all perish, even while the poor body yet lives on. Thus the protracted life presents only the wider field for the sorrowful invasion of change and grief.

Schiller, with his wonted felicity, gives us a glimpse of the profound deep of desolation in this couplet:—

"Das Herz ist gestorben, die Welt ist leer,
Und weiter giebt sie dem Wunche nichts mehr."

And so, with the old man the world has truly become an empty place. His co-mates, who started with him in the same morning of life, are long since at rest in their dusty graves. Some died abroad, and some in their own land. Some lingered on through months, or even years, of pain; others were struck down in a passing moment. Some died happily, and at peace; others in want and misery unspeakable. At all events, they are gone, and his heart sinks within him as he feels he is alone; and he wonders when he thinks how strange all things have become, and how differently people speak and act now from what they did when he was a boy.

"Whom Heaven loves, dies early," was the sentiment of the old wise Greek; and I see nothing in it abhorrent to Christian feeling, or that would prevent one giving as their best wish—"A happy death, and—one in youth!"

Two.

Might not a curious paper be written on the last verses of our poets, and an attempt

made to show that in them those glorious spirits took, perhaps unconsciously, no unmeet farewell of the muse? The last lines written by Lord Byron were:—

> Seek out—less often sought than found—
> A soldier's grave, for thee the best;
> Then look around, and choose thy ground,
> And take thy rest.

Shelley's last poem, and perhaps the most mystical of any he wrote, is called "The Triumph of Life," and was in great part composed as he floated on that fatal sea which was so soon to ingulf him. Its conclusion is:—

> After a brief space
> From every form the beauty slowly waned;
> From every firmest limb and fairest face
> The strength and freshness fell like dust, and left
> The action and the shape, without the grace
> Of life. . . . Thus on the way
> Mask after mask fell from the countenance
> And form of all; and long before the day
> Was old, the joy which waked, like heaven's glance,
> The sleepers in the oblivious valley, died;
> And some grew weary of the ghastly dance,
> And fell, as I have fallen, by the wayside;—
> Those soonest from whose forms most shadows past,
> And least of strength and beauty did abide.
> *Then, what is life?* I cried.

The lingering sweetness of the last notes of the Hemans has not yet quitted our ears, and her "Sabbath Sonnet" was the tender adieu the daughter of music, with failing fingers, took of her harp. It followed—how fitly!—her magnificent lyric, "Despondency and Aspiration," and told that the restless longings of that lofty strain were all fulfilled, and oh, how abundantly! She died in early summer, and this was the broken melody of the poor sufferer on her last Sabbath morning. Memories of the sunshiny fields of her own England came across her soul, the peacefulness which seems pre-eminently cast over nature during the hallowed hours, the happy groups wending their way alike from hall and from hamlet, towards the gray church-tower, whence the sweet jangling chimes are issuing—and then the touching allusion to her own feebleness:—

> I may not tread
> With them those pathways,—to the feverish bed
> Of sickness bound;—yet, oh my God! I bless
> Thy mercy, that with Sabbath peace hath filled
> My chastened heart, and all its throbbings stilled
> To one deep calm of lowliest thankfulness.

Another, and an altered, gust from the wind-harp! Yes; the breezy tones are changed, and the instrument obeys the unseen agent's ministration. Is not the human soul the instrument we speak of; and feelings, do they not sweep its chords, and shake out responses, ay! and to widely different vibrations?

William Motherwell, whose Scottish ballads have brought tears to the eyes of many a snooded maiden of his own country, and whose wild Norse legends have yet more powerfully affected the men, is the next I shall refer to for illustration of my position. With a sense of coming mortality creeping over him, and a feeling as though the long grass were already waving above his head, and with the natural desire not wholly to pass away from men's memories, the poet passionately entreats, in his last lines, to be remembered. He asks himself, will there be any to visit his grave, and pace it round thinking of him, and sit down by his side, as he lies there cold and senseless, and name his name, now growing unfamiliar? And then, while half hoping and half doubting, he calls to mind that the dead have no need of this tribute, even as they so rarely receive it; and his conclusion is a kind of palinode of all his preceding wishes. I quote from memory, but I am sure I quote correctly:—

> It may be so. But this is selfish sorrow
> To ask such meed,
> A weakness and a wickedness to borrow
> From hearts that bleed,
> The wailings of to-day for what to-morrow
> Shall never need.
>
> Lay me, then, gently in my narrow dwelling,
> Thou sad heart!
> And though thy bosom should with grief be swelling,
> Let no tear start;
> It were in vain; for time has long been knelling,
> 'Sad one, depart!'

I could extend this considerably; but it is often pleasanter to suggest than to enlarge.

Three.

One thing you will learn fast enough in the world, for it is potent in such teaching—that is, to be suspicious. Oh! cast from you for ever the hateful lesson. Men do not think how much of their innocency they are laying down, when they assume a clothing whose texture is guile. Beware of this mock pro-

tection; for you can hardly use it without practising deceit. I do not ask you to trust always; but I would have you think well of men until you find them otherwise. When you are once deceived, either by an acted or a spoken falsehood, trust that person no more.

I had it once laid down to me as an axiom by a very dear friend, (and I am so satisfied of the precept's truth as to make it a rule of my life,) that persons rarely suspect others except of things which they are capable of doing themselves. Yes; these shadows of doubting are generally flung from some bad realities within. You are looking at your own image when you see so much vileness in your neighbor's face. How much better might not we ourselves become, if we used more largely to others that blessed charity which thinketh no evil!

Four.

There can be little doubt but that, with all its absurdities, heraldry is a most ancient science. The twelve Hebrew tribes bore on their banners insignia, under which the dying patriarch Jacob had typified them (Gen. xlix). The supporters of our own national arms were regal emblems, even in the days of Balaam. When that bold bad man would speak of the victories and power of Israel, he selects those two animals in illustration (Numbers xxiii. 22, 24; xxiv. 8, 9)—the lion, as the emblem of conquest; the unicorn, of strength.

Five.

I am assured by the friend who has favored me with them, that the following spirited lines have never been printed. I do not think they will suffer from a comparison even with Shelley's, and only regret I cannot name the translator:—

TO THE LARK.

From the Welsh of Dafydd ab Gwilyn, a bard of the fourteenth century.

I.

Sentinel of the morning light!
  Reveller of the spring!
How sweetly, nobly, wild thy flight,
  Thy boundless journeying;
Far from thy brethren of the woods, alone,
A hermit cloister before God's throne!

II.

Oh! wilt thou climb the heavens for me,
  Yon rampart's starry height—
Thou interlude of melody
  Twixt darkness and the light;
And seek, with heaven's first dawn upon thy crest,
My lady love, the moonbeam of the west!

III.

No woodland caroller art thou:
  Far from the archer's eye,
Thy course is o'er the mountain brow,
  Thy music in the sky;
Then fearless float thy path of cloud along,
Thou earthly denizen of angel song!

Six.

* * * With regard to friends. Our little being is so much wrapped up in our personal experience, and this experience so much constitutes our whole world, that any one who becomes dear to us, is invariably depreciated, as to his former life, when he was a stranger to us. This may be done unconsciously, but, I think, occurs almost assuredly. We never think that our friend's feelings were as warm, his thoughts as generous, his heart as open, long before we knew him; and should any change divide us, how little do we deem he thinks as deeply, feels as sensibly, lives as completely as ever! Self so much constitutes with us every thing, that where we are not present, there is a kind of annihilation of all things else. Let us take our departure from any place, and can we imagine then (at least with any degree of conviction) every thing happening as really as when we were there? Let friendship exist between us and any one, however worthy of it, and can we from our heart feel the same sympathy in that friend's former life, which passed ere our intimacy began? No! our present love may teach us to hear of it with gladness; but never can we dwell upon it with the same enduring pleasure as we do upon the scenes and incidents in which we have been ourselves sharers.

And truly may we become wise, if we thus keep present with us the littleness of our share in worldly matters. How comparatively less than nothing is our busiest conduct; and yet to us this little portion is every thing! And then, on all sides of us, the vast mechanism of the world is going smoothly on, and hundreds of events hourly occurring, of which we know nothing, simply

because we do not witness them. Neither do we recollect that what we have seen occurred just as independently ere we were present, and shall go on just as uninterruptedly when we have departed—that not with them cometh a change, but with us—and that man falsely charges upon nature the alterations he himself is made to undergo.

Seven.

Truly, the world is a lovely place. Not the minutest blade of grass, or the humblest flower, I pass by without a blessing; or the perishing ephemeron, or the everlasting hills; or the faint tinkling streamlet, or the full, far-sounding ocean—all alike in their perfections, though differing in their degrees—all these are glorious to my eye and senses. But man!—here is the rending of the divine link—man is the outcast, the spoiler, the doomed. He is no more what he once was, and what he ought to be; and I seek no further proof of the necessity for a change in his nature and destinies.

The world—I mean the world of nature—is lovely. Tell me, dear reader, have you ever looked up straight into the clear heavens, when they were mirroring as soft a blue as your mistress's eye, and thought for an instant what Space was, without feeling a weight suddenly plucked off from your head, and a moving thrill which made your pulses leap within you, from the vague sense of habitation bearing the same relation to locality that eternity does to time? And then, when you saw the smiling fields stretching far, far away on all sides of you, which led off your eye to rest at last on the distant hills, did you not pant to cast yourself abroad on that glorious scene, and involuntarily murmur—

> "Oh, that I were
> The viewless spirit of a lovely sound,
> A living voice, a breathing harmony,
> A bodiless enjoyment—born and dying
> With the blest tone which made me!"

Once more: is there not something inexpressibly awful in the solitary magnificence of the noon-day sun, as he pours down those ceaseless tides of glory on this lower world?—when you think that he is at one and the same moment shining for countless miles on the expanse of the glittering sea, and visiting the shady forest, the lonely country, the peopled city; the palace of the nobles, the hut of the beggar; the happy home of health, the heaped-up hospital; the rich, the proud, the rejoicing; the wretched, the dying, the dead, and the green graves. Yes, all these things, so widely differing, yet forming part of the same human life, that glorious eye takes in at once!

Eight.

I do not think we sufficiently sympathize with our juniors in years. That false pride, that dearly-bought experience, through which we maintain a superiority over them, dispose us too much to overlook their many beautiful traits of character. We do not remember that these little people, in their own selves, and so far as their unripened sensibilities carry them, are each of them the centre of a circle, the moving point round which revolves the whole world beside. Neither do we think often enough, that there is a freshness in these young souls which may profitably revive our jaded hearts, and an honesty of purpose like an atmosphere surrounding them, which it would be well for us sometimes to breathe; and that lastly, by "becoming as little children" we are getting taught by those who, of all instructors on earth, are nearest heaven; for they have come most recently from it, and its fragrance is still floating about them.

I envy not the man who can look on the open countenance of the true-hearted boy, or the fair and delicate face of girlhood, with those pensive eyes and long golden hair, and not call to mind his own by-gone years, nor seek to read for those untried spirits what is written for them in the book of daily life. Were I to try to feel like him, I should not succeed; for I regard the young with an intense sympathy. Remembering most vividly, as I do, when I was one of them, and recollecting the upward feeling wherewith I used to regard the full-grown, I cannot help now shaping my thoughts downwards, and becoming one with them again. It may be, that we do not give in this world sufficient individuality to each with whom we mix. The selfish feeling of making the world one thing, and ourselves the other, closes up the heart against all the gentler sympathies; and the apprehension of childishness, and its imputation to us, prevent our entering into their little feelings, and giving them their due weight and importance.

Yet who remembers not the days of his boyhood? What traveller, even in the midst of toilsome and busy years, when manhood had hardened his heart, and disappointment taught him to rejoice no more on earth, did not turn his eye backward to his father's manly welcome, the tender reception from his mother, his young sisters' proud trusting in him, and his happy home, whither no care nor sorrow could pursue him—the family hearth was a sanctuary, and there he was safe.

The innocence of childhood, consisting, as it does, in the ignorance of evil, is for me the one charm which makes it so like what I dream of heaven. Alas! how often, when I gazed on the fair hair of the young, and eyes that looked no evil, have I in my heart shed tears that such whiteness of soul was no longer mine own—bitter tears of repentance, but ineffectual ones likewise, for they were the lament for what had long since departed. The fruit had been tasted, and the paradise of primeval harmlessness wandered from for ever. * * *

Nine.

O, the littleness of human knowledge! All that we know is, nothing can be known. Mystery of mysteries are we full often to ourselves; and if we know not what is in us—if when we cast the glance of anxious inquiry within, and ask individually, "What am I?" the hollowness of vacuity only reverberates the question—How can we hope to comprehend what is not of ourselves?

The world talk of "mental acquirements." Mental acquirements! and what are they? The astronomer will tell you that Science has now, like the giants of old, scaled the heavens; yea, that he, even he, has in his wisdom meted out the stars—that he has computed their number, and discovered their positions—that he has observed their progress, and marked their varied revolutions. But turn, and ask the same wise man something further, and behold his emptiness! Ask him, What is any one of those glowing orbs of which he so vaunteth his knowledge? Is it only

> "A speck of tinsel fixed in heaven
> To light the midnights of his native town;"

or, is it a world like unto our own? Are cares, and fears, and sorrows all there, enveloping it like a sky? and is it only its measureless distance which invests it with such lustre? Do its tenants contemplate this earth with feelings at all akin to ours, when we regard their world? Do they long to discover what beings people so glorious a fabric, and gazing, do they

> "Wonder what is there,
> So beautiful it seems?"

Ask him, then, any of these questions, and where is his knowledge?

Again, visit the physiologist, and inquire of him, where is that thinking portion of man, his true self, seated? He can tell you much of its divine functions, but nothing of its real nature; he can dilate on its mighty and mysterious powers, but what tangible idea can he afford you of *itself?* Bring him to the new-made corpse—the temple in ruins, from which the guardian deity is departed—the signet, whereon *Ichabod*, the word of wo, is engraven—and ask him, where in that tabernacle abode its inmate? whence arose that strange communion between earth and heaven? How came the worm and the god to be united in that weak frame? Alas, he can give you no reply; or should he try to reason out the question, he may lead you, apparently, a step or two further, and then will be compelled to desist.

The great Sanctuary of Knowledge mortal foot has never entered; the veil which separates it from our gaze, has not yet been uplifted; and though at times we fancy we have advanced beyond our fellows towards treading its unseen recesses, we in reality but touch the curtain which trembles in our hold; and the densest mist that beclouds us is—ourself! Things alien to us we can fancy we understand; the world that is about us we can, in our hours of musing, contemplate and admire; but the world within passeth knowledge. The mind, though itself the seat of understanding, like the eye—so Locke compares it—cannot view itself; and thus remains in ignorance of its own true nature.

Ten.

All persons of a highly-wrought and imaginative disposition, must have found how much clearer they are able to think in the night season than during the garish hours of day. Some say, the passions are more awake then; it may be so, but I am sure

the intellect is more awake also. Jean Paul has a pretty conceit, to explain to us why our thoughts are more vivid, more marked, more copious, while the material world is wrapped in gloom. He says something like this, if I do not wrong him :—

"The earth is every day overspread with the veil of night, for the same reason that the cages of birds are darkened, so that we may the more readily apprehend the higher harmonies of thought in the hush and stillness of darkness. Ideas, which the day converts into smoke and mist, during the night stand about us, light and flames; like the column which fluctuates above the crater of Vesuvius, and which seems in the daytime a pillar of cloud, but is by night a column of fire."

The superior claims of the ebon goddess are so well put forth here, that I need make no addition.

Eleven.

We speak of the treasures of affection in this world—has the spirit-land none such? Even from the millions of bursten hearts, who have hence travelled thitherwards, may not stores of it be gathered, richer, purer, more disinterested, (inasmuch as lacking the impulse of the passions,) than any this world can bestow? Have we dear ones dwelling with us above earth?—are there not some also beneath it?—and whose affection is the more unchanging? Which of them will love us on still without coldness or fretfulness—without caring for our imperfections—without heeding our unkindness—without blaming our injustice or wrong; but ever, ever, looking upon us with the same tender eyes, taking all wrong, giving none, and watching over us for good, untired, unwearied, undeparting!

Alas, alas! it is the living change, not the dead, in their affection and natures. I have read of the Arab city, in which the inhabitants were in one night changed to stone. Whatever had been the occupation of each at that particular moment, in that did the cold hand fix him—in that he remained for ever and ever. So is it with the departed; in those silent mansions no change ever cometh; the condition of the soul, its affections, its impulses, are all the same—firmly fixed for eternity. But we! we who talk of the changes of death, put out of the way the incalculably greater changes of life.

Twelve.

How much is our dread of death—our shrinking from the pale shadow—increased by the bugbear mockeries with which the grave and burial are now encumbered! Men are not satisfied that their friends should die, but they must heap up in addition such idle pageantry as can only weary and disgust. Think over some of them!—the satellites of Death who make up the funeral, his triumphal hearse-car, his monumental trophy (to give durability to his conquest), and his badges of servitude, which the living weepers wear for the twelvemonth. And yet we may ask, why these sad and distressing symbols?—why add suffering to suffering—heap grief on grief, and tear on tear, by these cumbrous obsequies?

I will not, that friend however dear, or relation however nearly connected, place over me the graven work of the statuary. It is but making Death his trophy, as I have before said, and I acknowledge not the conquest of the great victor. Rather lay me in the grassy bed, wherein I may repose quietly and unmarked; and save me from the incumbrance of such unwieldy structures. The couch of turf speaks better things in its symbolic simplicity; says it not, that the one within is looking for an awakening, and is patiently expecting the welcome tones of that voice which will not call to him unanswered? The marvellous sweetness of those divine accents will be sooner heard through the light covering of a few earth-handsfull.

Memorial, to be sure, I would have, for who would be without one?—but one more desirable than effigy in brass or stone,

"A sweet haunting murmur of my name,
Where it would rest;"

a constant presence with those I love; a word of blessing when thought of; sometimes, but rarely, a longing wish or a tender tear for me; and at all times an unmurmuring submission to His will who has given the weary rest, and glorified himself by the departure of one in His faith and fear.

Enough of this, and more than enough. I pause in the midst of my vain dreamings.

THE ATMOSPHERIC RAILWAY.

From the British and Foreign Review.

THIS is the most complete view of this wonderful application of our common air to purposes of locomotion, which we have yet seen. It will be read with interest, and we hope will lead to an experiment in our own country. One great advantage of this mode of conveyance, not mentioned in any reports, will be exemption of eyes from cinders, and of dresses, barns, etc., from burning.—ED.

1. *Report of Lieut.-Colonel Sir Frederick Smith and Professor Barlow, to the Right Honorable the Earl of Ripon, President of the Board of Trade, on the Atmospheric Railway.* Presented to Parliament by command of Her Majesty. London, 1842.
2. *Rapport, addressé à M. le Ministre des Travaux Publics, sur le nouveau mode de locomotion, dit Système Atmosphérique.* Par M. Edmond Teisserenc. Paris, 1843.
3. *Report on the Railroad constructed from Kingstown to Dalkey, upon the Atmospheric System, and upon the Application of this System to Railroads in general.* By M. Mallet. London: John Weale, 1844.
4. *A Treatise on the Adaptation of Atmospheric Pressure to the purposes of Locomotion on Railways.* By J. D. A. Samuda. London: John Weale, 1841.
5. *The Atmospheric Railway.* A Letter to the Right Hon. the Earl of Ripon, President of the Board of Trade, etc. By James Pim, Jun., M.R.I.A. London, 1841.
6. *Observations on the Report of Lieut. Colonel Sir Frederick Smith, R.E., and Professor Barlow, on the Atmospheric Railway.* By T. F. Bergin, M.R.I.A. London, 1842.

AMONGST the inventions which within the last twenty years have rapidly followed one another, in the application of steam power to works of public utility, the most important is the Railway. Scarcely fifteen years have elapsed, since the practicability of this means of locomotion was untested even by experiment; and the astonishing rapidity with which, as soon as this point was ascertained, the invention was brought into general use, is itself a criterion of its vast importance.* During the last twelve years, several thousand miles of railway have been laid down in the British empire; and above sixty millions sterling had in 1841 been embarked in railway speculation; independent of this, is the still greater projected extent of its adoption on the continent. When we consider all the difficulties to be overcome, the immense amount of labor to be encountered, and the enormous capital that has been so easily found and so readily embarked in this gigantic enterprise, we find cause for admiration, not less at the power, skill, and industry which have been brought to bear upon this Herculean task, than at the apparently limitless resources of our national wealth.

The invention and the successful application of such a power might appear sufficient for one age, were it not that the characteristic of power is to multiply itself, and that every new discovery proves only the incitement to fresh efforts of inventive genius. We are not content to look back upon what has been achieved, but press continually forward to what we are capable of accomplishing: new means beget fresh wants, and these again are the stimulus to those whose task it is to provide for them.

The history of the discovery which we shall sketch in the present article, presents an interesting chapter in the annals of invention, apart from its vast importance in reference to practical results; and we deem a subject of such universal concernment to be deserving of an historic record. With this view we shall, in the first place, relate briefly the origin and progress of the invention of the Atmospheric Railway, and shall reserve our remarks on its application to the conclusion of this article.

The first idea of employing the power of air in land-carriage* occurred to a gentleman at Manchester, Mr. Taylor, (the inventor of the first power-loom,) in 1805. In conversation with two friends, Mr. Duckworth and Mr. Clegg, the subject was discussed; and, although these gentlemen were all of opinion that the idea was capable of being realized, the means of accomplishing their object was so surrounded with difficulties, that the subject was ultimately dropped without any steps being taken or experiments made. The plan proposed was in principle the same as that which is now in successful operation in Ireland,—namely, the application of atmo-

* The Liverpool and Manchester line was opened to the public September 15, 1830.

* Mr. Papin originally suggested employing atmospheric pressure against a vacuum, but not for these purposes.

spheric pressure obtained by the exhausting power of the air-pump. Mr. Taylor's scheme only extended to the conveyance of letters and despatches; he suggested that a tube, large enough to contain a parcel, should be laid down from one town to another: at these places a stationary steam-engine should be erected, which should exhaust the tube. The parcels being placed in the tube at one end, and the latter exhausted by an engine at the other, the pressure of the air would carry the contents of the tube along with immense velocity; at each station or town the letters and parcels intended for that district would be taken out, and the rest forwarded to their destination. This ingenious suggestion was never published; we believe that it has remained to the present time wholly unknown: its interest will be seen as we proceed.

In 1810, Mr. George Medhurst, an engineer in London, published a pamphlet, in which he proposed "a new method of conveying goods and letters by air;" and in 1812 he published his calculations and remarks on the practicability of the scheme. "These publications," he says, "met with that indifference and contempt which usually attend all attempts to deviate so widely from established customs." His suggestions led however to no attempt to test their correctness; but in 1827 Mr. Medhurst printed another pamphlet,* in which the author suggests four applications of the principle of atmospheric pressure to purposes of travelling, which we will describe in his own words. The passages we select contain the whole account of what he purposed to accomplish, the rest of the pamphlet being filled with calculations and details of management, which it is unnecessary to quote.

"In order to apply this principle to the purpose of conveying goods and passengers from place to place, a hollow tube or archway must be constructed the whole distance, of iron, brick, timber, or any material that will confine the air, and of such dimensions as to admit a four-wheeled carriage to run through it, capable of carrying passengers, and of strength and capacity for large and heavy goods. The tube or aërial canal must be made air-tight, and of the same form and dimensions throughout, having a pair of cast-iron or stone wheel tracks securely laid all along the bottom, for the wheels of the carriage to run upon; and the carriage must be nearly of the size and form of the canal, so as to prevent any considerable quantity of air from passing by it. If the air is forced into the mouth of the canal, behind the carriage, by an engine of sufficient power, it will be driven forward by the pressure of the air against it; and if the air is continually driven in, the pressure against the carriage, and consequently its motion, will be continually maintained."—*Page* 3.

"When the carriage is to go through the canal, from the engine, the air must be forced into the canal behind it; but when it is to go the contrary way, the same engine is to draw the air out of the canal, and rarefy the air before the carriage, that the atmospheric air may press into the canal behind the carriage, and drive it the contrary way."—*Page* 15.

The next suggestion of Mr. Medhurst was as follows:—

"It is practicable, upon the same principle, to form a tube so as to leave a continual communication between the inside and the outside of it, without suffering any part of the impelling air to escape; and by this means to impel a carriage along upon an iron road, in the open air, with equal velocity, and in a great degree possessing the same advantages as in passing withinside of the tube, with the additional satisfaction to passengers of being unconfined, and in view of the country. If a round iron tube, 24 inches in diameter, be made, with an opening of two inches wide in the circumference, and a flanch 6 or 8 inches deep on each side of the opening, it will leave a channel between the flanches, and an opening into the tube. If such a tube is laid all along upon the ground, with the iron channel immersed in a channel of water, and a piston or box made to fit it loosely, and pass through it upon wheels or rollers, this box, driven through the tube by the air forced into it, may give motion to a carriage without, by a communication through the channel and the water. No air can pass out of the tube while the channel is immersed in water, unless the air is of such density as to force the water out of the channel, and then the air will follow it and escape; but there is an opening made for a bar of iron to pass from the running box, in the interior of the tube..... to which a rod or crank may be brought from the carriage in the open air, and from that receive its motion."

A third plan was the following:—

"A plan to combine the two modes together, that the goods may be conveyed within the canal, and a communication made from the inside to the outside of it, so that a carriage may be impelled in the open air, to carry passengers, would be an improvement desirable and practicable. It must be effected without the aid of water, that it may rise and fall as the land lies; and it must give a continual impulse

* It was entitled "A new system of inland conveyance for goods and passengers, capable of being applied and extended throughout the country, and of conveying all kinds of goods, cattle, and passengers," etc.

to the outside carriage, without suffering the impelling air to escape. For this purpose there must be some machinery which will diminish the simplicity, make it more expensive, and more liable to be disordered, unless executed in the most substantial and perfect manner; but by skill, by experience, and sound workmanship, it may be accomplished in various ways."

Mr. Medhurst suggested a fourth idea:—

"The same principle and the same form, may be advantageously applied to convey goods and passengers in the open air, upon a common road, at the same rate of a mile in a minute, or sixty miles per hour; and without any obstruction, except, at times, contrary winds, which may retard its progress, and heavy snow, which may obstruct it. If a square iron tube be formed, two feet on each side, four feet in area, with three sides, and one half of the top, of cast iron, the other half of the top made of plate iron or copper, to lift up and shut down in a groove in the cast-iron semi-top plate, as before described; and if a strong and light box or frame be made to run upon wheels within the tube, and an iron arm made to pass out, through the opening made by lifting up the plate, as before described, this arm may give motion to a carriage in the open air, and upon the common road, without any railway, if the pressure within the tube is made strong enough for the purpose."

This pamphlet is now simply an interesting historical document: the suggestions of its author led at the time to no practical result, because, although he understood the principle, the point upon which its applicability entirely depended was unattained: the difficulty was, to find the means of rendering a tube sufficiently air-tight, and at the same time of allowing a piston, which should connect the motive power *within* the tube with the bodies to be propelled on its outside, to pass freely along an opening in this tube.

Previously, however, to the appearance of Mr. Medhurst's second tract, a patent was taken out by Mr. Vallance in 1824 for a plan of locomotion by atmospheric pressure. This was merely a modification of Mr. Medhurst's first scheme of exhausting a tunnel large enough to contain a train of carriages: a stationary engine was to be erected at one end of this tunnel, which, it was supposed, would create a sufficient vacuum for the pressure of the air acting on a piston attached to the first carriage to impel the whole train forward. It is astonishing that a plan, for many reasons so palpably impracticable, engaged the attention of any man of sense, or was made the subject for a patent. A model of this railway was exhibited at Brighton, but this was the extent of its application.

We shall briefly notice a claim put forward by Mr. Pinkus to be the inventor of a pneumatic railway. He obtained a patent March 1st, 1834, for a contrivance precisely similar to that which Medhurst had published seven years before, excepting that he proposed to use a rope for the continuous valve, and substituted a cylinder for a square tube, which he describes as follows:—

"A flexible cord lies in the groove at the top of the cylinder, for the purpose of closing the longitudinal aperture; this cord is to be of the same length as the pneumatic railway, and to fit tightly into the groove or channel."

The failure of this scheme was shown by the fact, that Mr. Pinkus took out a new patent in 1836, in which he says,—

"The method of carrying it into practice consists in a method or in methods of constructing the pneumatic valve and the valvular cord, and in the manner of using the same, one of which methods hereinafter described, I design to substitute for and in lieu of the valve and cord described in the specification of my said former patent."

It is unnecessary to describe the specification of this contrivance, which proved a second failure; but we must note that it in no way anticipated or resembled the subsequent invention of Mr. Clegg. The difficulty had still to be conquered, and no approach to this had been made, since Mr. Medhurst first suggested the idea of making a continuous communication between the inside of the tube and the carriage without-side, sufficiently air-tight for the object required. On the 3d of January, 1839, Mr. Clegg took out his patent, which we shall presently describe, and on the third of August following Mr. Pinkus took out a third patent, in which he introduces a valve in every respect similar to that of Mr. Clegg, and further proposes to seal it with a composition to be alternately fluid and solid, as described in Mr. Clegg's patent, with the only difference that the composition was to be melted by a galvanic wire instead of a heater. This patent was enrolled eight months after the publication of Mr. Clegg's specification.

All the attempts hitherto made to overcome the difficulty we have mentioned had failed, until the invention of Mr. Clegg effected this, in a manner which, from subsequent experiments, removes any doubt as to the

practicability of the atmospheric railway, and opens a new prospect of advantages, the extent of which cannot at present be calculated. The principal feature of this invention consists in "a method of constructing and working valves in combination with machinery," to be applied to "railways or other purposes, by a line of partially exhausted pipes, for the purpose of obtaining a direct tractive force to move weights, either on the railway or otherwise." The following extract from Mr Clegg's specification explains this:—

"My improvements consist in a method of constructing and working valves in combination with machinery. These valves work on a hinge of leather, or other flexible material, which is practically air-tight (similar to the valves commonly used in air-pumps), the extremity or edge of these valves is caused to fall into a trough containing a composition of bees' wax and tallow, or bees' wax and oil, or any substance or composition of substances which is solid at the temperature of the atmosphere, and becomes fluid when heated a few degrees above it. After the valve is closed, and its extremity is laying in the trough, the tallow is heated sufficiently to seal up or cement together the fracture round the edge or edges of the valve, which the previous opening of the valve had caused; and then the heat being removed, the tallow again becomes hard, and forms an air-tight joint or cement between the extremity of the valve and the trough. When it is requisite to open the valve, it is done by lifting it out of the tallow, with or without the application of heat, and the before named process of sealing it, or rendering it air-tight, is repeated every time it is closed. This combination of valves, with machinery, is made in the application of these valves to railways, or other purposes, by a line of partially exhausted pipes for the purpose of obtaining a direct tractive force to move weights, either on the railway or otherwise."

In a pamphlet printed in 1841, Mr. Pim, the treasurer of the Dublin Railway Company, addressed a letter to the Earl of Ripon, then President of the Board of Trade, on the subject of the atmospheric railway. From this work we shall extract a simple description of the invention.

"On this system of working railways, the moving power is communicated to the trains by means of a continuous pipe or main, of suitable diameter, laid in the middle of the track, and supported by the same cross-sleepers to which the chairs and rails are attached. The internal surface of the pipe being properly prepared by a coating of tallow, a travelling piston made air-tight by leather packing, is introduced therein, and is connected to the leading carriage of each train by an iron plate or coulter. In this position, if part of the air be withdrawn from that length of pipe in front of the piston by an air-pump, worked from a stationary engine or by other mechanical means, placed at a suitable distance, a certain amount of pressure on the back of the piston (being the locomotive force) will take place, proportioned to the power employed. In practice, and to work economically, it will be sufficient to produce an exhaustion of air in the pipe, equal to causing a pressure from the atmosphere, upon or behind the travelling piston, of 8 lbs. per square inch, which is only about one-half the pressure due to a vacuum. Supposing the main pipe to be of 18 inches internal diameter, it will receive a piston of 254 superficial inches area, on which, with the above pressure, a tractive force of 2,032 lbs. is consequently obtained; and this is capable of propelling a train weighing 45 tons (or eight to nine loaded carriages), at the rate of 30 miles an hour, up an acclivity of 1 in 100, or 53 feet per mile. The iron coulter being fixed to the travelling piston within the pipe, and also to the leading carriage of the train, connects them together, moving through an aperture formed in the top, and along the whole length of the pipe; while one set of vertical rollers attached to the piston rod, at some little distance behind the piston, progressively lift up for the space of a few feet, and another set of rollers attached to the carriage close down again, a portion of a continuous flexible valve or flap, of peculiar construction, covering the aperture; and it is the very simple, ingenious, and efficient mode of successively opening, and closing down and hermetically sealing this valve, as each train advances and moves on, that constitutes the merit of the invention, and the foundation of the patent; the operation consisting first, in opening the valve to admit the free admission of the external air, to press on the back of the piston, and produce motion; and then in effectually closing down and sealing the valve again, so as to leave the pipe in a fit state to receive the travelling piston of the next train, and ready to be again exhausted of its air. Stationary engines of sufficient power, proportioned to the amount of traffic and speed required, would, in practice, be placed at intervals of about three miles apart, and be arranged to work the railway to that length, alternately on either side of their position, as might be required."—*Pages* 6-8.

The means of stopping a train and passing from one section of pipe to another are as follows:—

"When it becomes necessary to stop or retard the carriages, in addition to the use of a common break, a valve in the travelling piston may be opened by the guard or conductor of the train, whereby, the external air being admitted in advance of the piston into the exhausted portion of the pipe, the propelling power is at once destroyed. The separating valves, in the main or pipe between each sec-

tion or division of the line, being made self-acting, there will be no occasion for stopping, or even for retarding the movement of the train, in passing from one division of the pipe to another, as the air is successively exhausted by the stationary power placed at the proper intervals. The carriages may, therefore, pass continuously, at any required velocity, as if drawn by a locomotive engine; and it is necessary to keep this circumstance in mind, as by any other system of traction by stationary engines than the atmospheric, a stoppage and a change at each engine is unavoidable."—*Pages* 9–10.

It is difficult to appreciate fully the simplicity and beauty of this invention, and the facility and regularity with which the tube and valves act, without examining the apparatus or plans of its construction. The exhaustion of the main tube, and the propulsion of the piston and carriages attached, are easily comprehended; but the mode of passing from one section of the pipe to another, above alluded to, requires more attention: this is explained in the description given by M. Teisserenc in his Report to the French Government, to which we shall presently allude:

"Quand on sort de la sphère d'action d'une machine pneumatique, pour entrer dans la sphère d'action de l'appareil pneumatique suivant, il est donc convenable que l'air du tube dans lequel on entre soit déjà raréfié; mais alors le tube est fermé à ses deux extrémités. Nouvelle difficulté pour éviter le choc du piston arrivant avec toute sa vitesse acquise contre la soupape de clôture, pour ouvrir cette soupape avec un petit effort, de manière à donner passage au piston, sans donner passage à l'air extérieur, sans arrêter, sans ralentir seulement le convoi. Ici il a fallu encore recourir à une disposition fort ingénieuse. La soupape de MM. Clegg et Samuda s'ouvre au moment où le piston ferme déjà le tube, et par l'action même du piston; l'effort est presque nul, la rentrée de l'air n'en est pas augmentée. Quant à la sortie du piston d'un tube, elle ne donne lieu non plus à aucun choc, bien qu'une soupape de clôture se trouve aussi à l'extrémité du tuyau, et voici comment: l'appareil pneumatique placé sur le côté du chemin communique avec le tube de propulsion par un tube aspirateur. Il a suffi de placer ce tuyau aspirateur à quelques mètres en deçà de l'extrémité fermée par la soupape de sortie pour rendre toute rencontre entre le piston et cette soupape impossible. Dès que le piston a dépassé le tube aspirateur, l'air n'étant plus enlevé devant lui se comprime de plus en plus, augmente progressivement de densité jusqu'au moment où la pression intérieure étant supérieure à la pression atmosphérique, la soupape s'ouvre d'elle-même."—*M. Teisserenc's Report*, p. 112.

Soon after Mr. Clegg had taken out his patent, he exhibited a model 30 feet long at Paris; and a second model, 120 feet long, was erected in 1840, by Messrs. Samuda at their manufactory in Southwark, which excited much attention. In the autumn of the same year a space of ground at Wormholt Scrubs, half a mile long, was placed by the directors of the Thames Junction Railway Company at the disposal of Messrs. Clegg and Samuda, (who co-operated in carrying out the invention,) for the purpose of laying down a line of railway on the atmospheric principle; and in May, 1840, this experimental line was opened. An event so interesting attracted a large concourse of persons to the spot; and by the issue of the experiment then to be tried, would probably be shown the practicability or failure of the invention: several members of the Cabinet, and a large number of persons of rank and eminent engineers were present. The success which from the first attended these experiments realized the expectations of Messrs. Clegg and Samuda; they were repeated several times each week during a twelvemonth, and continued less frequently a second year. Engineers and persons connected with railway companies came from Paris, Petersburg, Vienna, Berlin and other parts of the continent, as well as from every part of the British dominions, to examine the apparatus and witness its operation. The results of these experiments appeared in a pamphlet in 1840, which was reprinted in an extended form in 1841. We shall refer to the points of chief interest.

The inclination of the line was 1 in 120; the vacuum-pipe half a mile long and 9 inches internal diameter; the exhausting-pump was 37½ inches diameter and 22½ inches stroke, worked by a steam-engine of 16-horse power.

"For the purpose of experim ent, a series of posts were fixed along the half mile every two chains, and a barometric gauge was attached at each end of the pipe, for the purpose of ascertaining the degree to which the pipe was exhausted. A vacuum equal to a column of mercury eighteen inches high was obtained in about one minute, and both gauges indicated the same extent of vacuum at the same instant."

Following out the registered results obtained during six months, it was found that a main pipe of 18 inches diameter would be sufficiently large for a traffic of 5000 tons a day, viz. 2500 each way, supposing the in-

clination of the line to average 1 in 100.* But among the most important of the facts deduced from these experiments are the following, which refer to the effects of wear and tear on the apparatus:

..... "The workings of the system are equally perfect during all seasons,—through the height of summer and in the severest winter that we have known for many years: in no single instance during the whole time has any derangement of the machinery taken place, to prevent, or even to delay for one minute, the starting of the trains. The main pipe and valve have considerably improved by working; the composition for sealing the valve has become so much more firmly bedded in its place, that while in June last we were only able to obtain a vacuum equal to a column of mercury 19 to 20 inches high, we now obtain from 22 to 24 inches, and occasionally 25. The speed, originally from 20 to 30 miles per hour, now ranges from 30 to 45. The whole attendance the valve and main received during this period was that of a single laborer for about one hour every week; the composition now in the valve-groove has never been changed; and 56 lbs. weight only has been added to supply the waste; the cost of this composition, which consists of wax and tallow, is 1*s.* per lb." —*Page* 11.

* The Patentees give the following details:— "A main pipe, 18 inches diameter, will contain a piston of 254 inches area: the usual pressure on this piston, produced by exhausting the pipe, should be 8 lbs. per square inch (as this is the most economical degree of vacuum to work at, and a large margin is left for obtaining higher vacuums to draw trains heavier than usual on emergencies,—a tractive force of 2032 pounds is thus obtained, which will draw a train weighing 45 tons, at 30 miles per hour, up an incline rising 1 in 100. Two and a half miles of this pipe will contain 23,324 cubic feet of air, $\frac{15}{30}$ths of which, or 12,439 cubic feet, must be pumped out to effect a vacuum equal to 8 lbs. per square inch; the air-pump for this purpose should be 5 feet 7 inches diameter, or 24 7 feet area, and its piston should move through 220 feet per minute, thus discharging at the rate of 24 7 X 220 = 5434 cubic feet per minute at first, and at the rate of 2536 cubic feet per minute when the vacuum has advanced to 16 inches mercury, or 8 lbs. per square inch, the mean quantity discharged being thus 3985 feet per minute: therefore $\frac{12439}{3985} = 3{\cdot}1$ minutes, the time required to exhaust the pipe; and as the area of the pump-piston is 14 times as great as that in the pipe, so the velocity of the latter will be 14 times as great as that of the former, or 220 feet per minute X 14 = 3080 feet per minute, or 35 miles per hour. But in consequence of the imperfect action of an air-pump, slight leakages, etc., this velocity will be reduced to 30 miles per hour, and the time requisite to make the vacuum increased to 4 minutes: the train will thus move over the 2 1-2 miles section in 5 minutes, and it can be prepared for the next train in 4 minutes more,—together 9 minutes; 15 minutes is therefore ample time to allow between each train, and supposing the working day to consist of 14 hours, 56 trains can be started in each direction, or 2520 tons, making a total of 5000 tons per day. The fixed engine to perform this duty will be 110 horses' power, equivalent to 22 horses' power per mile in each direction."

The success of these experiments, and the general attention which was drawn to the subject, forced it upon the notice of the Government. Mr. Pim, who took a warm interest in the promotion of so important an enterprise, printed a detailed description of the atmospheric railway, the great public advantages which its adoption held out, and urged the subject strongly on the attention of the Board of Trade. In consequence of this appeal, Sir Frederick Smith and Professor Barlow were appointed to examine the experimental works at Wormholt Scrubs, and to furnish a report upon the applicability of the system. This document, addressed to the Earl of Ripon, was presented to Parliament, and is dated February 15, 1842. It contents consist chiefly of calculations on the details of working, too purely scientific for our examination here. We cannot, however, but notice the partiality of the general remarks, the evident desire to suggest every doubt and to minimize every advantage of the atmospheric system. Notwithstanding this bias, however, the admissions forced upon its authors are decisive. The chief points on which questions naturally present themselves, and to which we shall first confine our attention, are the following: we quote them from the Parliamentary Report:—

"It is no longer a question whether trains of carriages may be worked by means of atmospheric pressure; the points now to be decided are:

"1. Whether this principle admit of its being advantageously applied to greater distances than half a mile, which is the length of the present experimental line" [at Wormholt Scrubs].

"2. The probable expense of constructing a railway on this principle, and of supplying the locomotive power.

"3. The relative economy in working such a line, as compared with a railway worked by locomotive engines.

"4. The degree of safety which the atmospheric system affords, as compared with other locomotive means."

The first of these points appears to be decided, by the successful results obtained on the railway from Kingstown to Dalkey, extending nearly two miles, which has been

recently completed: these are still more satisfactory than the former experiments on a line of half a mile; but we shall have occasion to refer to them hereafter. We shall here quote the observations of Mr. Samuda on this point:—

"In answer to the first objection we would say, in every case where a train has been started, the pipe has first been exhausted to 18 inches of mercury or upwards. . . . . From the barometric gauges fixed at both ends of the pipe, the vacuum is ascertained to be formed to an equal extent throughout the whole length without any appreciable difference of time. The pipe laid down is 9 inches diameter, and half a mile long, and a pressure equal to a column of mercury 18 inches high is obtained in one minute by an air-pump 37½ inches diameter, moving through 165 feet per minute. Now it is obvious that, if the transverse section of the pipe be increased to any extent, and the area of the air-pump *proportionately* increased, the result will remain unaltered,—*i. e.* half a mile of pipe will be exhausted in one minute; and supposing the air-pump has to exhaust 3 miles, it will perform the operation in 6 minutes; it is also obvious that if the area of the air-pump be increased in a greater proportion than that of the pipe, the exhaustion will be performed more rapidly, or *vice versa*. These results are matters of absolute certainty, as convincingly clear as that the power of a steam-engine must be regulated by the area of the piston on which the steam acts. No person of scientific attainments will for one moment doubt that, if a steam-engine were made with a cylinder twice the area of the *largest* cylinder ever set to work, the power obtained would be in proportion to the increased area. And so with the air-pumps before alluded to; the excess of work is immediately arrived at, that an air-pump 6 feet 3 inches diameter will perform over another of 3 feet 1½ inch diameter, the speed of the pistons being the same in both instances. So plain and self-evident is this result, that we believe the most skeptical will admit it to be correct; and this being granted, the applicability of the system to a line of any length must follow; for whatever the length of railroad be,—whether 3, or 30, or 300 miles,—no different effects have to be produced. The working a road 30 miles long would be the same thing as working 10 roads each 3 miles long. Every 3 miles an engine and air-pump is fixed, which exhausts its own portion of pipe before the train arrives; thus, as the train advances, it receives power from each succeeding engine in turn (and without any stoppage, unless required, until it arrives at its final destination), and the air-pumps continuing to work, after the train has passed, on the section they act upon, re-exhaust it in readiness for the next."

2. With respect to the cost of construction, we now possess satisfactory data upon which to form a calculation. In the first place, on the atmospheric system one line of rails is proved to be sufficient, and half the expense of rails is thus at once saved. But in addition to this, the weight of the rail may be reduced very considerably, in consequence of the weight of the locomotive engine (from fifteen to twenty tons) being got rid of.

M. Mallet, in his recent Report to the French Government, (to which we shall refer hereafter), makes another valuable suggestion, which will probably lead to a further saving:—"Could we not besides (as is done on the road from Kingstown to Dalkey, where the trains run more than 500 mètres by momentum, the piston out of the pipe) have long interruptions of the main pipes, at the ends of which the trains arriving at new mains should regain their lost speed. Great economy would follow such an arrangement. Of the different combinations which might thus be formed, much yet remains to be said."—*Page* 44.

Another considerable saving is effected in the expense of forming the road. Those who have studied the cost of constructing railways, know well how large an item this forms. A slight inclination in the course renders a succession of embankments, cuttings, viaducts, etc., necessary, which have not only to be made in the first instance, but to be maintained and repaired. The cost of this is too obvious, to any one who has travelled on our present lines of railway, to need indication.

M. Mallet, in speaking of the width of way required on the present system, says:—

"This width, more than quadruple that of the road, is rendered necessary by—First, the foundation of the slopes required by the cuttings and embankments. Secondly, the spoil banks. Thirdly, the side roads. Fourthly, the drains or ditches; and Fifthly and lastly, the sidings for stations on the line. Of these five causes the principal is the foundations for the slopes, which are often very considerable. The necessity of great radii of curvature, and especially that of small inclinations, leads inevitably to this. With the Atmospheric system, the earthworks, and consequently the extent of the slopes, will be much less considerable. To estimate the cost of compensation on this system at five-ninths of that on the ordinary railroads would be to overrate this part of the expense."—*Page* 40.

And again:—

"Passing now to works of art, I shall remark that a great number among them, as

bridges, under which the railroad passes, will be considerably reduced in their dimensions. Instead of a height of 5m. 50 under the crown, these bridges will need to have no more than 3m 50 at most, since it will not be necessary to leave passage for the chimneys of the locomotives. The quantity of embankment at the approaches to these bridges will be proportionally less."—*Page* 41.

The fact has never been questioned, that the atmospheric railway admits of much steeper gradients; and, without entering on the wide field of calculations of economy and public advantage which this simple fact opens, we shall limit our remarks to one point of view, and leave our readers to follow out the deducible reasonings. A locomotive engine weighing 17 tons will only draw a load of about 30 tons up an inclined plane of 1 in 100 at the rate of 20 miles an hour. If required to draw any additional weight, at this small speed, another engine must be attached,—that is, the cost of working must be *doubled*. This is alluded to by M. Teisserenc:—

"Ne pouvant diviser les trains, ni créer à volonté des trains supplementaires, aussitôt qu'un convoi est trop chargé, il faut atteler deux locomotives, c'est-à-dire doubler les frais de transport. Les accidents sur les trains menés à très-grande vitesse ont d'autant plus de gravité que le nombre des voitures attelées est plus considérable. Non seulement ils frappent un plus grand nombre de personnes, mais la masse en mouvement étant plus grande, les chocs, en cas d'arrêt brusque, sont plus difficiles à amortir, plus désastreux dans leurs conséquences."—*Page* 107.

We now turn to the atmospheric principle. The stationary engine of 100 horse-power, now at work on the Dalkey railway, draws 72 tons at 20 miles an hour, along a line of $1\frac{3}{4}$ miles upon a gradient of 1 in 100. The Parliamentary Reporters admit that, whilst "a great part of the power of the heavy locomotive engine is expended in overcoming its own gravity and resistance, it is equally true that, on the atmospheric principle, the whole additional force is exerted on the load itself." This advantage of the atmospheric principle consequently admits the power of working lines economically on a large range of gradients from which locomotive power is necessarily excluded; the question of limit is, in fact, one not of power, but of economical calculation. "The atmospheric system," says M. Mallet, "is, so to speak, master of the acclivities, and affords opportunities of making calculations which the present system, with its stringent conditions, does not admit of." To overcome the resistance of a load up a steep hill, the power of the engine must be increased; and it is only a question, in each particular instance, whether this will be more expensive than tunnelling or embanking. The Parliamentary Reporters remark, that "to work steep inclines by means of larger tubes would involve the necessity of stopping the train at the foot of such planes, and of again overcoming the inertia of the load; in both instances causing a loss of time." This objection is answered by Mr. Bergin as follows:—

"Assume for a moment, which however I altogether deny, that it was necessary to vary the size of the main on every ascent, and to stop the train at the foot thereof, for the purpose of changing the piston, I should say the cases are very few indeed in which the engineer, when laying out a line of railway, could not so arrange his plans that these stopping places should be the most desirable for stations, and thus render the accommodation afforded to the public perfectly compatible with the efficient and economical working of the line. But I do not agree in supposing it necessary to change the dimensions of the main on every steep incline;.....the less the exhaustion in the main, the greater the quantity of air extracted at each stroke of the pump in proportion to the power expended; or, in other words, the less the exhaustion (within proper limits) the diameter of the main being proportionately increased, the greater the economy of the system; and in this assertion I am fully borne out by the Reporters' investigation. Further, this reduction of vacuum does not materially affect the velocity of travelling, which is essentially dependent on the *discharging power* of the air-pump. Such being the fact, an engineer, when looking out a line of railway, and starting with the knowledge that he is not restricted to levels or even to moderate gradients, would find few districts in which he would not be able to form the railway almost on the very surface of the country; for he would be at liberty to avail himself of almost any ascent; the only consequence of his doing so being an increased expenditure of power, precisely in the ratio of the increased resistance."

There are many other incidental advantages, of an importance scarcely yet appreciable, which are obtained by the simple command of steeper gradients. It will be seen that this opens at once a much wider and more free choice to the engineer in the course of his line, and the expenses of compensation for the value of property may fre-

quently be affected and considerably reduced or avoided.

Independent, however, of mere economical considerations, we remark the incalculable advantage of effecting the *possibility of railroads* in countries where locomotive power must ever remain inapplicable.—Mountains may be bored, valleys may be bridged with viaducts, or filled up with embankments, but the power to effect this does not depend merely upon skill and the command of capital; it is restricted within the limits of prudential economy, of that foresight in man which regulates expenditure by anticipated profit,—which plants the grain, that it may increase and multiply. These gigantic works will only be undertaken where the existing or anticipated traffic justifies the speculation; and we may hence estimate, in some degree, the value of an invention which offers so wide an extension of these advantages of communication, whilst it holds out increased inducements of profit to enterprising capitalists to promote the public benefit.

3. We now proceed to the relative expenses of working, on which point the Parliamentary Reporters make the following remarks:—

"This a question to which no general answer can be given, because it depends entirely on the daily amount of traffic. We have no doubt that a stationary engine properly proportioned, according to the rules we have indicated for a pipe three miles long, would be able to work trains on a line every quarter of an hour, or every half hour, each way, during the day (say of 12 hours), amounting to 144 miles. Now to work this distance by a locomotive engine, at the moderate estimate of 1*s.* 4*d.* per mile, would amount to 9*l.* 18*s.*, say 10*l.* per day; whereas the stationary engine power would not cost one half that sum, and consequently a saving in working expenses would arise of 1800*l.* or 2000*l.* per annum. But if only half this duty were required, the expenses of the two ways of working would be much nearer equal; and again, if only half the latter duty were to be performed, that is, of trains starting only every two hours each way, the advantages would be on the side of the locomotive engine. The fact is, that in one case the expenses per diem will be nearly the same, whether working at intervals of an hour or at every quarter hour; whereas in the other the charge is nearly proportional to the work actually performed."—*Report*, p. 5.

This we assume to be correct; at the same time it will be borne in mind that, by ascertained facts, the atmospheric railway is now shown to work as easily at the rate of fifty to sixty miles an hour, upon an ordinary line, as at twenty miles,—with the remarkable advantage, that increase of speed does not increase the cost. In some respects, the tendency of increase of speed is even to lessen cost; for instance, it has been shown that the leakage is diminished in proportion to speed, and a saving is thus effected. Assuming, therefore, on the other hand, that the traffic on a line renders it desirable to start trains every quarter instead of every half hour, it is easily accomplished. The statement of the Parliamentary Reporters shows how the economy on the atmospheric system would increase in such cases. And here we must remark a singular advantage of employing stationary engines, alluded to by M. Teisserenc.* The cost of a locomotive engine, in action, is nearly the same whatever load it draws; and the cost of repairs is proportionably smaller upon an engine of large size and power; such a motive power can therefore be only profitably worked with large trains, and this very fact tends to limit considerably the number of daily trains, and consequently the advantages of railway travelling.† A necessary regard to public security leads to the same conclusion. The rapid succession of trains upon a line is a constant source of danger, and delays are therefore unavoidable. Upon an atmospheric railway, on the contrary, the greater the number of trains started in a day (without reference to their load), the more economical is the system of working. By the registered experiments on the Dalkey railway, a train with a load of seventy-two tons, takes five minutes and thirty-three seconds to perform the journey of a mile and three quarters. Now, as upon this system no two trains can possibly move at once on the same section of pipe, no delay is required in starting the trains, to avoid danger from their overtaking one another. As soon, therefore, as one train has passed off a section, the tube is ready to be exhausted again (which is effected in about three to five minutes), and to receive the next train immediately. Upon these facts it is easy to form any calculations; motives of economy would lead to the starting of as *many*, instead of as *few* trains as possible; and whilst no accident could by any chance occur from a rapid succession of trains, it is needless to remark that the public would be incalculably benefited.

* See his Report to the French Government, p. 107. † Ibid, p. 107.

An important point will be here observed,—that a considerable saving in the cost of working is effected by the very means which the public advantage requires—namely, by despatching trains as speedily as possible. Their weight is consequently diminished, and the piston, having less to draw, may be proportionably smaller in diameter. This reduces the cost of the pipe (which is the chief item in the first outlay of construction) in nearly the same proportion as the speed is increased, and as the rapid succession of trains is effected. In short, the economy of working and the advantage to the public are here identical.

Upon this subject we will only observe, that a consideration next in importance to that of security, is that of *velocity*—the power obtained by so much greater speed in carriage—and the manifold results which are connected, directly and indirectly, with this advantage. To these results we can only draw the reader's attention in a general way: the value to the Government of a double rate of speed (independently of a reduced rate of carriage) is incalculable, for the transmission of despatches, troops, etc., but above all for the service of the Post Office. We may imagine, but cannot estimate, the vast effect on the revenue and business of the Post Office, which must accrue from the following advantages:—as quick a succession of trains as might be desired,—a speed of transmission more than double the present,—a large reduction of the expenses of carriage,—besides opening the possibility of employing railways in lines where they are now wholly impracticable. Without considering the really most important gain to the nation—of the new facilities of correspondence—we limit our remark to the effects on the Post Office revenue.

Another source of economy in working on the atmospheric system is, that the power expended may be exactly regulated according to the power required. M. Mallet remarks on this point:—

"Whatever be the load of the trains, the Rouen Railway Company pay 1f. 10 per kilomètre for locomotive power; whilst on the atmospheric system the action of the engines might be diminished, and the power proportioned to the resistance, by making no more rarefaction than necessary. It would be possible, for instance, to use on ordinary occasions an exhaustion of twelve or thirteen inches;—this could easily be obtained in two minutes. Thus, at each trip, three minutes' work of the engines would be saved."—*Page* 52.

The Paliamentary Report states, that "in the cost of the maintenance of way, there would be a difference in favor of the atmospheric principle."

An objection has been raised to the atmospheric system, on the ground of the expense of the stationary steam-engines and establishments, and the liability to accident. This is replied to by Mr. Samuda as follows:—

"The objection as to the complexity and outlay attendant on a number of fixed engines, may perhaps be better answered by taking a review of the number and expense of these engines and the duty they are required to perform. On a line 30 miles long, supposing the average distance between the engines to be 3 miles, there would be 10 engines and air-pumps with their engine-houses; and if the railroad were appointed for transporting 5000 tons per day over the whole distance (considerably more than double the amount carried daily on any railroad in England), the expense of one of these stationary engine establishments would cost complete £4,200, which, multiplied by 10, will give £42,000—total cost on the whole line. But it is a fact which probably must have escaped the notice of those urging this expense as a drawback to the atmospheric system, if they were ever acquainted with it, that to perform a traffic of only 1700 tons per day, upwards of one locomotive engine per mile is necessary; and as each locomotive costs £1500, the total capital required for locomotive power on a railroad 30 miles in length would be £45,000; in first cost, therefore, there would be a saving of £3000 in favor of the stationary power; but this is far from being the most important saving. Every mill-owner in Lancashire and Yorkshire, and any person connected with mining operations, will readily admit that this outlay being once incurred for a steam-engine to drive his machinery or drain his mine, and his engine being once fixed on *terra firma*, its deterioration, uncertainty of action, or annual expense of maintenance, is not a source of annoyance or anxiety to him.

Five per cent. per annum on the cost will more than cover all repairs necessary to be performed to it, and all oil, hemp, and tallow used in working it. It is the exception, and not the rule, if a stationary engine once fixed, meet with a derangement to render a stoppage necessary.

The annual expenses will be for repairs at 5 per cent. on £42,000	£2100
For coal for these engines (when transporting 2000 tons per day), 6420 tons per year, at 20s. per ton . .	6420
Wages to engine-men and stokers .	1800
	£10,320

"The Liverpool and Manchester Railway is 30 miles long, and is the only railway that transports as much as 1700 tons per day over

its whole distance; and the annual expense of its locomotive department, including coke, is about £50,000 a year. Need we make any further comment, when the annual expense of power for the atmospheric system is £10,320, and for performing the same traffic on the locomotive system upwards of £50,000 is found necessary? Great as the pecuniary advantages have been shown to be, we must not forget to correct the third objection; viz., the erroneous opinion that the system is faulty because an accident occurring at one of these stations would interrupt the traffic on the whole line. *Primâ facie*, this argument is correct, but we have already shown how small the chance of accident is to a stationary steam-engine.....To make assurance doubly sure, a pair of engines and a pair of air pumps, each of half the requisite power, may be fixed at each station: should any thing cause one engine and pump to stop, the traffic would not be interrupted; the only delay would be the retardation of the train while passing over that section of pipe where only half the power was in action; and, until the cause of the stoppage were removed, the trains would be some five or six minutes more than usual performing the journey.—*Page* 17.

We must notice one more objection of a serious nature, connected with the employment of a single line of way,—viz. that an accident occurring at one of the stations, or any where along the pipe, may interrupt the traffic on the whole line. Upon this point Mr. Samuda remarks:—

"The next objection we have to meet is the interruption to the traffic from some derangement in the pipe. This comprehends, 1st, an accident to the pipe itself; and, 2nd, from the composition not being effectually sealed.—An accident to the pipe can only occur from breakage, and, unless designedly perpetrated, could never happen at all. But for the sake of argument, we will suppose a pipe has been broken—no matter how; the time of removing it and replacing it with another would be considerably less than the time now necessary to clear off the fragments of a broken engine and train after a collision; and supposing a length of valve to require replacing, it could be done in less time than replacing a rail when torn up by an engine running off the line. If, instead of one, there were one hundred places along the pipe where the heater had imperfectly performed its functions, the admission of atmospheric air through the composition in these places would only reduce the column of mercury a few inches: no stoppage or interruption of the traffic could possibly occur from this cause; and by comparing the quantity of air pumped out at each stroke of the pump with the quantity that will leak in at each imperfectly sealed spot, any such erroneous idea will be removed. Perhaps on this head an appeal to experience will be more satisfactory than any argument, however strong. In the whole of our workings, the column of mercury has never varied in height more than two inches on the same day; and as it requires eight times the number of minutes to destroy the vacuum in the pipe, when the engine is at rest, than it takes to raise it when in action, it follows that one-eighth only of the power (two horses) is all that is employed to overcome leakage. Perhaps the *necessity* of stopping the traffic of a line in the event of an accident, until the damage is replaced or the obstacle cleared away, should be regarded upon all railways as a peculiar advantage: by this *necessity* all chance of "running into" is avoided; and where stationary power is employed the difficulties of communication which a locomotive line has to contend with are overcome. By means of an electric telegraph, every engine-station along 100 miles of road may be communicated with in half a minute, and thus the traffic may be suspended and resumed at pleasure."—*Page* 17.

M. Mallet has examined this objection in the following passage:—

"It has been said, should any accident occur on your single way, the traffic is all stopped; whereas with the two lines of a locomotive road, if any thing happens to one you have the other remaining. I will not dispute the validity of this objection, neither will I destroy it; but I can greatly lessen it in stating that very many of the accidents which happen on the locomotive lines, become an impossibility upon the atmospheric. No collision, no probable running off the rails: from whence then will accidents arise? From evil disposed persons injuring the road? In that case, the lines of locomotives are as open to their attacks as the atmospheric, and they might as well injure two lines as one. I see not any chance of stoppage, except from the breaking of an axle or a wheel, and these are mishaps which occur but seldom; besides which, when they do, the road could speedily be cleared of one carriage rendered unfit for service. I will not for a moment deny that there may be occasions of interruption of the transits; so there are also upon the locomotive lines, in spite of their two lines of way."

4. In the last place we have to consider the safety afforded by the atmospheric system, as compared with other locomotive means. This is a subject of such paramount importance, that, were any one system proved to afford increased security, purchased even by increased cost of construction and working, a proper regard to public safety of life and limb ought to preponderate over pecuniary motives. When however, on the contrary, an invention offers the means of reducing the expenses of travelling, and at the same time of ob-

viating the *possibility* of accident, such a benefit to mankind ought at least to be met with every attention and encouragement. If any one feature characterizes the principle of the atmospheric railway, it is the very element of safety which lies in its construction and in the mode of its working. On this point we shall first quote the opinion of M. Teisserenc:—

"*Au point de vue de la Sécurité.*—Il est facile de montrer que le système atmosphérique remédie à toutes les causes principales d'accident sur les chemins-de-fer en usage aujourd'hui. Quelles sont, en effet, ces causes: les collisions entre les trains, la sortie de la voie, la rupture des essieux des locomotives, les èboulements dans les grandes tranchées, les incendies. Avec l'appareil atmosphérique, pas de collisions, pas d'incendies, pas de rupture d'essieu; la voie modelée sur le niveau naturel du sol ne nécessite pas de grands mouvements de terre; le train tenu par un point fixe ne peut guère quitter les rails."—*Page* 117.

Mr. Samuda remarks upon this subject as follows:—

"Beside these advantages, this system possesses others of still more importance to the public. *No collision between trains can take place;* for as the power cannot be applied to more than one piston at a time in the same section of pipe, the trains must ever be the length of a section apart from each other; and if from any cause a train should be stopped in the middle of a section, the train which follows it will be obliged to stop also at the entrance of the pipe, as there will be no power to propel it until the first train is out. It is also impossible for two trains to run in opposite directions on the same line, as the power is only applied at one end of each section. A train *cannot* get off the rail, as the leading carriage is firmly attached to the piston, which travels *in* the pipe *between* the rails; and the luggage and carriages cannot be burnt, as no engines travel with the trains."

The opinion given by M. Mallet fully confirms this statement. "Firstly," he says, "this system, from not employing locomotives, is exempt from all the dangers to which accidents to them expose us. .....In the second place, the risk of collision entirely vanishes, and perfect security may be enjoyed on that head, two trains never being able to run in the same pipe at once." Again he says:—

"Upon an atmospheric railroad there is no possibility of running off the rails; or at least, if one carriage gets off the rails no accident can result from it. First, the leading carriage, firmly and closely attached to a pipe, which may well be regarded as immovable, from its own weight and the strength with which it is fastened down, cannot run off the rail. Those which follow it, and are linked to each other, would have even more difficulty in getting off the rails. But on a railroad, whilst the guiding carriage maintains its way, it is of little consequence if one of those behind misses the rail; its wheels may plough up the soil beside the track, but as it cannot get away no danger is to apprehended, and the worst that can happen will be a check in the speed. This is an important result for the construction of roads upon the atmospheric system. Curves, also, which on the locomotive system may not be made less than 800m radius, may by this system be taken much sharper. I do not think that it is wise to reduce them as far as those of the road of Kingstown to Dalkey; but I look upon radii of 300m to 400m as quite possible."—*Page* 28.

This point is of such singular importance to the public, that we deem it desirable to compare the opinions of all those engineers who have examined and reported upon the merits of the system, as it is essential that the fullest satisfaction should be afforded. We shall further quote a passage from Mr. Bergin's pamphlet, in which he notices a remark made in the Parliamentary Report,—that it is a great element of safety for the source of power to be present with the train.

"There remains but one other matter to which I think it necessary to advert; but that one is, in my judgment, of such paramount importance, that, more than any other, it characterizes the atmospheric system; I mean the safety of the passengers; not merely relatively to other modes of transit, but the highest attainable degree of absolute safety.....Now what the locomotive system is in point of safety to the older modes of travelling, I believe the atmospheric to be to the locomotive: in a word, as free from hazard as it is possible for any human contrivance to be. What elements of danger are there?—collision is impossible, all recognized causes of fracture of parts are almost altogether absent.....In speaking on this subject, the Reporters say, 'On railways, it is a great element of safety that the source of power is present with the train, and may be almost instantly turned off if any necessity shows itself for the stopping.'—The presence of the engine, it is too well known, has not always proved a source of safety, as no inconsiderable portion of the very worst of railway casualties have been *solely occasioned by it.* The latter part of the sentence is generally true; but in this respect there is no difference between the locomotive and the atmospheric systems; or if there be, it is in my opinion in favor of the latter, inasmuch as the means of turning off the power are still

more certain; the regulator or steam-cock of a locomotive-engine may stick fast, so that the engineman cannot move it; this I have more than once known to be the case. But there are abundance of contrivances in daily use, any one of which is adequate for uniting the travelling piston to the train, and in which no difficulty of separation, nor apprehension of any derangement, can possibly exist. Besides, even were this not the case, this separation or casting off is not the only means at the command of the conductor; in common with the locomotive-train he has the break, and in addition he has the power of instantly opening a communication between the exhausted main and the atmosphere; this latter of course is not so immediate in its action as shutting off the steam in a locomotive, but combined with the break, which from the much less weight and momentum of the atmospheric train, I know by frequent trials, (even at full speed, and with the full motive pressure in operation,) to be much more effective than with a locomotive engine. I believe itpracticable to bring to rest a train moved by atmospheric pressure, *in as short a space as is consistent with the materials of the carriage holding together.*"

Thus, so far from its being a cause of insecurity for the source of power to be distant from the train, the very reverse is the case. "La locomotive porte avec elle," observes M. Teisserenc, "un élément terrible de destruction, le feu, dont le catastrophe du 8 Mai, les accidents arrivés sur le chemin de Liège, sur celui de Tsarkoé-Selo à St. Petersbourg, ne font que trop ressortir le danger." Similar casualties of daily occurrence, attended with more or less mischief, might be quoted. The objection stated in the above extract has been carefully examined by M. Mallet, who says in conclusion:—"I must add, that it is not true to assert that there is no communication between the engine-man and the train. The barometer, which he has continually before his eyes, ever indicates the power he is exerting over the piston, and the increased or diminished velocity of the train is perfectly known to him by the rising and falling of the mercury. The barometer, also, is an instrument which it requires very little instruction to understand and make use of.

But independently of the removal of this source of danger, it is manifest that, in the very point in which the Parliamentary Reporters ascribe exclusive safety to the locomotive system, the atmospheric has the advantage of not only possessing *all* the means of safety attached to a locomotive engine, unattended by any of its dangers, but others in addition. We may observe that the weight of the engine being dispensed with, the momentum of a train is reduced in proportion. The necessary weight in a train to convey 200 passengers upon the locomotive system amounts to 77 tons; whilst on the atmospheric system it is only 33 tons. So that the application of the break on the latter system will stop a train in half the time that it would with locomotive engines. Mr. Bergin has alluded to these in the above extract, but we may notice still another.

When the power is turned off in a locomotive engine, the momentum is checked by the break, and by reversing the action of the engines. Upon the atmospheric system, the required object is, as it were, also provided for in a beautiful manner by the natural action of the principle employed. The conductor no sooner opens the communication between the exhausted main and the atmosphere (which is accomplished by the simplest means), than the very power which had before served to impel the train, now, when it is required to act contrariwise, tends to retard it. As soon as the air is admitted *before* the piston, not only is the motive power stopped, but the very momentum of the train accelerates its own stoppage, by compressing the air before the piston; so that its density acts as a check *powerful in proportion to the speed*, and diminishes only as the train stops.

The action of this same principle meets another question. It has been asked whether, supposing any leakage or accident should happen in the tube before the piston, in ascending a steep incline, the train would not run backwards by its own force of gravity? Supposing any such accident to happen, the same principle of nature which we have noticed would act to prevent this result: the momentum is proportioned to the inclination, and the greater the speed from this cause, the greater would be the compression of the air,—in fact the power to resist it. This beautiful operation of a principle of nature, so simple and self-adjusting, will be intelligible to every one.

We have thus noticed the chief points alluded to in the Parliamentary Report. A reply to many of the statements contained in it was published in the pamphlet by Mr. Bergin, of Dublin, to which we have alluded: in this he examines at great length the result of the experiments instituted by the Parliamentary Reporters, and

their theoretical investigations, especially with respect to the estimated expenditure of engine-power required to maintain the exhaustion in the working main—the exhausting power of the air-pump, and the proportionate amount of leakage in the long valve and the piston in the main tube. Mr. Bergin examines, in a second class of observations, the remarks founded upon these calculations, which he considers as mere matters of opinion, and to which our attention has been more immediately directed. We shall proceed to notice the comparison of the merits of the two systems given by the Patentees :—

"We will first notice the principal defects in railways worked by locomotive power. These are, the expenses consequent upon their formation and working, in addition to the impossibility of obtaining a speed beyond 25 miles an hour, without incurring a more than proportionate additional expense. For an engine that would draw 61·29 tons on a level at the rate of 25 miles an hour, would,—if required to travel 30 miles an hour, only be able to draw 29·66 tons,—or, for the additional 5 miles in speed, a loss of more than one-half in power. These evils arise from the following causes: first, from the necessity of making the roads comparatively level, owing to the nature of the power employed. The whole power of the locomotive engine is not available to impel the *train*, because it has to drag itself and tender. Thus a great portion of its power is consumed even on a level; but that loss of power is greatly augmented when contending with the slightest ascent."—*Samuda, page* 21.

Here we must observe, that the velocity of travelling offers a remarkable contrast between the locomotive and atmospheric systems of railway. On an atmospheric line, increase of speed does not increase the cost of transit: the amount of discharging power expended during the transit of a given load, over a given distance, is the same, whatever the speed; and at the same time a saving in the loss from leakage is effected also in proportion to speed. On a line worked by locomotive engines it has been clearly proved that an increase in the velocity of the train from 25 to 30 miles per hour, is attended with *a loss* of more than half the effective power of the engine. This disadvantage is also attended by another serious one when an engine has to draw a train up an inclined plane,—a difficulty which augments in an increasing ratio to the inclination; an engine that would draw 269·87 tons at 10 miles an hour, on a level of 1 in 1000, can only draw 84·07 at the same speed on a gradient of 1 in 100. Thus, as Mr. Pym well observes, "the power is lost or absorbed in the inverse ratio in which it requires to be augmented, precisely at the moment when it is most important to obtain an increase."

The following table, taken from Mr. Wood's 'Practical Treatise on Railroads,'* shows the gross load which a locomotive engine, capable of evaporating sixty cubic feet of water per hour, will drag, exclusive of the tender, at the undermentioned rates of speed, on different inclinations of planes. This will enable the reader to estimate the advantage which the atmospheric railway possesses :—

Inclination of plane.	10 miles an hour.	12½ miles an hour.	15 miles an hour.	17½ miles an hour.	20 miles an hour.	22½ miles an hour.	25 miles an hour.	27½ miles an hour.	30 miles an hour.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
level	346·	251·10	187·84	142·64	108·75	82 38	61·29	44·04	29·66
1 in 4480	325·72	236·09	176·35	133·66	101·65	76·75	56·83	40·54	26·95
1 in 2240	307·58	222·67	166·06	125·62	95·30	71·71	52·84	37·40	24·54
1 in 1120	276·47	199·65	148·44	111·85	84·41	63·07	45·99	32·03	20·39
1 in 1000	269·87	194·76	144·70	108·93	82·11	61·24	44·54	30·89	19·51
1 in 900.	264.59	190·85	141·70	106·58	80·25	59·77	43·38	29·98	18·80
1 in 800.	255·56	184·17	136·59	102.5	77·09	57·25	41·40	28·42	17·60
1 in 700.	246·17	177·22	131·27	98·43	73·81	54·65	39·33	26·79	16·35
1 in 600.	234·68	168·72	124·75	93·34	69·78	51·46	36·80	24·81	14·82
1 in 500.	220·02	157·87	116·45	86·85	64·65	47·38	33·58	22·28	12·86
1 in 400.	201·04	143·82	105·69	78·44	58·01	42·11	29·40	19·	10·33
1 in 300.	175·39	124·85	91·16	67·09	49·03	34·99	23·76	14·57	6·91
1 in 200.	138·48	97·54	70·24	50·74	36·12	24·74	15·64	8·20	1·99
1 in 100.	84·07	55·30	37·89	25·46	16·14	8·88	3·09	—	—

Mr. Samuda states further disadvantages of the locomotive system :—

"Secondly, by the necessity of having great weight and strength of rails and foundation consequent on the employment of locomotive engines. These engines (exclusive of tender) weigh generally from 14 to 15 tons each: and,

* Third edition, page 581.

in addition to the rigidity of road required to sustain this weight passing over it on one carriage, the motion transferred to the wheels by the engines alternately on each side, causes a continual displacement or forcing out of the rails.

"The third, and perhaps the greatest evil, is the heavy expense attendant on working a railway by the ordinary method; and this item is rendered more excessive by the necessity of having a large number of extra engines in store, to keep an adequate supply in working order. By reference to the half-yearly accounts of the Liverpool and Manchester Railway, the annual expense for locomotive power and coke is found to be from 50,000*l.* to 60,000*l.* a year, nearly 2000*l.* a mile per annum, on a traffic of about 1700 tons a day. This amount is exclusive of first cost and interest on the original stock."—*Page* 22.

This item is one of serious importance. The Parliamentary Report states, that "in respect of locomotive outlay, a line worked by locomotive engines, in order to be well stocked, should have an engine per mile in addition; this mode of working requires water-stations, engine-houses, repairing-shops, etc." Thus the expense of all these engines, required to be constantly out of use, is exactly so much capital sunk, and yielding no interest. Nor is this a trifling matter, when we consider that each engine costs on an average above 1500*l.*, and that the expense of repairs on each in the year amounts to above fifty per cent. All this expense and loss upon capital invested is saved by the employment of a stationary engine, upon which the wear and tear is scarcely worth consideration. We recur to Mr. Samuda's statement:—

"The fourth evil is the large consumption of fuel in proportion to the power obtained; which arises, in part from the great velocity in the movement of the pistons, preventing the steam from acting on them with full force; which causes a back pressure on the pistons, reducing their force in proportion to the velocity at which they move. The power of the engine is thus constantly diminished as the velocity of the train is increased. To so great an extent is the combined action of these defects felt, that when travelling at 20 miles per hour, the effective power of the engine is reduced to half that which would be obtained from the same quantity of steam generated and fuel consumed with a stationary engine. When travelling at 30 miles per hour, it is reduced to less than one-fourth; and at a speed but little exceeding 45 miles, the power is so far destroyed that the engine will scarcely draw more than itself and tender. An additional waste of fuel, to an immense extent, is also occasioned by the loss of power (as already shown) on inclined planes. And, lastly, the chances of accident from collision, running off the rail, bursting of boilers, etc. From the foregoing remarks it will appear that the evils of the present system are entirely attributable to the use of locomotive power, and the remedy must be sought for in the employment of stationary power in its stead."—*Page* 24.

With these disadvantages are contrasted the anticipated results of the atmospheric system:—

"1st. The loss of power occasioned by the locomotive engines having to draw their own weight is entirely avoided; and steep hills may be ascended with no more additional power than that actually due to the acclivity, as there is no weight except the train. There is no other known power which can be applied to locomotion without carrying considerable weight and friction with it. The ill effects of locomotive-engines have been already pointed out, and the same disadvantages exist in the application of ropes, which must be drawn along with the train, and become an increased incumbrance on inclined planes. The defects of ropes in other respects are too generally known to need comment.

2nd. The weight of the rails and chairs on the new system may be less by one-third than where locomotive engines are employed, as the carriages of the train will be too light to injure them. The annual charge of maintenance of way, will, from the same cause, be reduced to a considerable extent.

3rd. The wear and tear of locomotive, compared with stationary engines, is as 18 to 1.

4th. By the new system the full power of the engines is always obtained; and on an incline, the additional quantity of fuel consumed in ascending will be saved in descending, as the trains run down by their own gravity. The expense of fuel will be further decreased, as the expense of using coal is only half that of coke.

On the new system the velocity depends entirely upon the velocity with which the air is withdrawn from the pipe; therefore, by simply increasing the air-pump, any speed may be attained; and with a fixed quantity of traffic per diem, no considerable increase in the fuel consumed or any other expense is incurred for improved speed, further than the small additional power required to overcome the increased atmospheric resistance. An actual saving in the first cost of a railway constructed for high velocities may be effected, because, by performing the journey in less time, a greater number of trains may be despatched each day, and their weight diminished; therefore the piston, having less to draw, may be smaller in diameter. The cost of the pipe (which forms the largest item in the first cost of this railway) will thus be reduced in nearly the same proportion as the speed is increased."—*Page* 26.

M. Mallet, in his report to the French Government, makes an important observation on the effect which a reduction of speed, in the passage of a train, exercises upon the motive force. In describing various experimental trips which he made on the Dalkey line, he says, that in one journey, when travelling at the rate of 45 miles per hour,—

"During our course the barometer sunk to 21 inches: this fall was caused by our going on quicker than the air could be withdrawn. The air which remained in the pipe caused a condensation which lowered the barometer. In the following experiment, made with the same train, a contrary effect was produced. Set off at 8 inches, viz. with a power of 704 lbs. We went on very slowly, and saw the mercury rise to 20 inches gradually. In this manner the air-pump produced a vacuum quicker than we proceeded, and this is a very important point of the atmospheric system. *If a slackness is produced by overloading a train, or if the train stops, the propulsive force instantly augments.*"—*Page* 16.

We shall not enter into further details of the probable saving to be effected by employing atmospheric pressure on rail-ways. The calculations of the Patentees show a large estimated reduction of cost in the construction and laying down of a line on their plan, and a saving of more than one-half in the annual cost of working; and we have some guarantee for the general accuracy of their calculations in a comparison of their estimates with the actual cost of construction of the line at Dalkey. This gives us ascertained data. The cost of the apparatus complete, and placed on the line, is 4300*l.* per mile; and that of the steam-engines, vacuum-pumps, engine-houses, etc., 1000*l.*: in all, 5300*l.* At the same time we must here mention the remark made by M. Mallet, in describing this apparatus, that the engine "is evidently more powerful than is required for working this road:" he adds,—"I am informed that it would make a vacuum in a pipe of six miles long: they rarely work this engine to more than half its power at present."

In consequence of the success of the experiments at Wormholt Scrubs, the company of the Dublin and Kingstown Railway, backed by the opinion of Mr. Pim, expressed their desire to adopt the atmospheric principle in an extension of their line from Kingstown to Dalkey. In furtherance of this object they applied to Government for a loan of money, on the security of their existing railway, to carry on the works. In the meanwhile, the Report above alluded to had been delivered to the Board of Trade, which fully admitted the accomplishment of the *principle* of the atmospheric railway, in the following words: "We consider the princiciple of atmospheric propulsion to be established, and that the economy of working increases with the length and diameter of the tube." With a creditable public spirit, the Government consented to assist in the trial of this national undertaking, and granted a loan of £25,000 to the Dublin and Kingstown Company. The Company however could not obtain a line of road without applying for a bill to Parliament; and to obviate the delay and expense which this would occasion, the Board of Works granted them the use of ground in their possession, which had been used for conveying stone from the quarries near Killina to the harbor of Kingstown. The nature of this road presented every difficulty to the formation of a railway; nevertheless the Patentees felt such a confidence in their project, that they were glad to have it tried and tested for the first time under circumstances of such unusual difficulty. The accomplishment of the work may on this account be regarded as doubly important. From the nature of the line of road, a series of sharp and difficult curves was unavoidable, upon which no locomotive engine could run without the utmost risk, and at a slow pace. These are now passed with the greatest ease and smoothness at sixty miles an hour, and with loads attached of seventy-two tons at the rate of twenty miles. Another point has here been decided, upon which in fact the applicability of this rail-road to extended lines of traffic in a great measure rests,—namely, the power of passing with facility from one section of pipe to another. At present, only one section of pipe is in operation, and consequently this experiment cannot be fully shown; its success however is ascertained by the fact, that the train has repeatedly passed *off* one section, with the greatest ease and regularity. The operation of the valve which divides the sections is simple and beautiful,—we have already quoted M. Tiesserenc's description of this,—and the simple fact of the successful operation of this valve is conclusive. If a train can pass without stoppage off one section, it must necessarily enter at once upon the next, and there can be no question as to the facility of repeating this along a line of any

length: a hundred stations can as easily be passed as one.*

The excellent Report of M. Teisserenc, to which we have had occasion to refer, was founded on observations made upon the experimental line at Wormholt Scrubs. After detailing the difficulties and dangers attending the locomotive system, he thus compares it with the atmospheric :—

"Le système atmosphérique est exempt des défauts que nous venons de reprocher aussi bien aux locomotives qu'aux machines à câbles. Son application dispenserait à la fois et du poids inutile du moteur dans le premier système, et du poids inutile de l'intermédiaire dans le second; elle permettrait l'excessive division, l'excessive multiplicité des trains, sans accroître les chances de collision, comme cela a lieu dans le système locomotif; sans augmenter la dépense, résultat de l'emploi des locomotives ou des machines à câble, elle fournirait un moteur dont la puissance, bien loin de diminuer avec le poids des objets à traîner, avec la roideur des rampes à franchir, tendrait, au contraire, à croître dans le même sens. Elle rendrait possibles toutes les vitesses avec des charges utiles considérables, sur les chemins les plus planes comme sur les railways les plus inclinés. Bien loin de nécessiter une application lente de la puissance motrice au départ, un ralentissement progressif à l'arrivée, elle permettrait d'accumuler à l'avance la force motrice, de manière à imprimer rapidement aux trains leur maximum de vitesse. Avec elle seraient impossibles et les collisions et les accidents résultant de la présence du feu. Les sorties de rail deviendraient extrêmement difficiles; les effets de la force centrifuge très peu redoutables; puisque le train, composé au plus de deux voitures, serait étroitement lié à la voie. Enfin, construits pour recevoir des voitures trois et quatre fois moins lourdes que les locomotives, les chemins n'auraient plus besoin de rails aussi pesans, de points aussi résistants; les collisions n'étant plus à craindre, pas plus que les encombrements, puisque les marchandises voyageraient aussi vite que les voyageurs, une seule voie serait suffisante. Rien de plus simple, d'ailleurs, que la théorie de l'appareil au moyen duquel on réalise ces nombreux avantages."—*Page* 108.

This Report awakened the attention of the French Government; and as soon as the works at Dalkey were in a sufficiently advanced state, they sent over another engineer, M. Mallet, Inspector General of Public Works, to furnish a second report. This recently appeared in the French journals, and we shall extract a few passages from it, containing the results of trials upon the Dalkey railway, which are of great interest :—

"Après avoir reconnu que le vide était obtenu d'une manière plus parfaite qu'on n'aurait osé l'espérer, je me suis occupé de la vitesse. Je rapporterai ici quatre expériences.

1. Avec un convoi pesant 38 tonnes (la tonne anglaise est de 2240 livres), le baromètre marquant 25 pouces, l'on a monté en 3 minutes 15 secondes. Par prudence, l'on a employé les freins pour franchir les courbes, ce qui a produit un ralentissement. Le maximum de vitesse, dans cette expérience, a eté de 40 milles (16 lieues) à l'heure.

2. Avec le même convoi, l'on est monté en 3 minutes 7 secondes: maximum de vitesse, 45 milles (plus de 18 lieues).

3. On est parti, le baromètre marquant 8 pouces, avec le même convoi. Pendant le trajet, le baromètre est monté jusqu'à 20 pouces. Le voyage a été effectué en 4 minutes 30 secondes. Sur quelques points, l'on a marché à 30 milles (12 lieues).

4. Enfin, le baromètre marquant 25 pouces, l'on est parti avec un convoi de 69 tonnes. Le temps du trajet a été de 5 minutes 20 secondes.

Pour descendre, l'on a employé la gravité. A cet effet, l'on a rangé le piston de côté (ce que se fait avec la plus grande facilité), afin qu'il ne recontrât pas de tube. Le temps de la descente a été d'environ 5 minutes. Le mouvement était ralenti par le frottement dans les courbes. Je n'ai rien à dire de ce moyen, usité par plusieurs chemins de fer."

The following results of experiments subsequently made on the Kingstown and Dalkey line are extracted from the 'Railway Times' of December 2, 1843. Their importance justifies our inserting them at length.

"Without the slighest hesitation, we have to state that the result of very minute investigation on the spot has fully confirmed the opinions to which we had previously come, from the scientific discussion of the principle and from the operations of the very imperfect apparatus at Wormholt Scrubs.

"The line between Kingstown and Dalkey is $1\frac{3}{4}$ miles in length, in which there is a rise of $71\frac{1}{2}$ feet, making an average ascent of 1 in 115, towards Dalkey. The main pipe between the rails, which is 15 inches internal diameter, commences at the Kingstown station, and is continued to within 500 yards of Dalkey. The communication between the main pipe and the steam-engine (at Dalkey) is formed through the medium of a close pipe, laid outside the trackway, and attached at the lower end into the main and at the upper end into the vacuum pump. A branch valve is placed at the junction between the close and open main, which allows the vacuum pump to act on the

* Great credit is due to the engineers, Messrs. Samudas, for the skill and talent displayed in constructing the Dalkey railway, and improving many of the details of working.

main, or be shut off from it, at pleasure. The dimensions of the engine are,—cylinder, 34¼ inches diameter; stroke, 5 feet 6 inches; speed, 242 feet per minute. It works expansively, the steam being admitted in the cylinder at 40 lbs. above the atmosphere, and cut off at one-fourth stroke when the engine is at its full load; it is then expanded for the remaining portion of the stroke, and condensed in the usual way. The degree of cut-off is regulated by a cam worked by the governor, and is therefore proportionately shorter as the duty of the engine is less; but in no case is the steam admitted for a greater distance than one-fourth of the stroke. The vacuum-pump is double acting. The dimensions are,—diameter, 67 inches; stroke 5 feet 6 inches; speed, 242 feet per minute. With the above apparatus we saw a vacuum formed in the entire length from Kingstown to Dalkey--

		m.	s.
Equal to a column of mer.	10 in. (or ⅓ of an atmos.)	in 0	56
" "	15 " (or ½ ")	in 1	51
" "	20 " (or ⅔ ")	in 3	30

For the purposes of observation, distance posts were placed along the line at intervals of two chains, every tenth post (or one-fourth mile) having a distinguishing mark; and the following was the result of some journeys made for us during our visit:—

"Journey A.—Gross load 62 tons; maximum speed during trip for two chains was = 24 miles per hour; total time of journey, 4 minutes 48 seconds.

"Journey B.—Gross load 72 tons; maximum speed during trip for 2 chains was = 20 miles per hour; total time of journey, 5 min. 33 sec.

"Journey C.—Gross load 75 tons; maximum speed during trip for 2 chains = 21·17 miles per hour; total time of journey, 6 min. 2 sec.

"Journey D.—Gross load 30 tons; maximum speed during trip for 2 chains was = 51·5 miles per hour; time at passing 1 1-2 mile post 2 min. 57 sec.; total time of journey, 3 min. 24 sec."

In the same journal of December 16th appeared the following additional details:—

"In following up the investigation, it should be observed that local circumstances, amount of traffic, and steepness of gradients, will to a certain extent influence this consideration; but with the view of rendering it as generally applicable as possible, we have made the calculations on a similar scale to that in use on the Kingstown and Dalkey line, and have deduced such of the working expenses therefrom as the time it has been in operation will allow. We apprehend that this scale will never have to be exceeded on lines of the *largest* traffic. Where it is decreased the cost will be proportionately lessened, so far as regards construction. The decreased scale will only influence the weight of trains. The speed can be preserved on the smaller as on the larger scale, by maintaining the same relative proportions between the vacuum-pump and the main.

"The scale employed on the Dalkey line is —Vacuum tube, 15 inches diameter; vacuum pump, 67 inches diameter; engine, 100-horse power. It will be well to notice the duty such an apparatus will perform on a level and up various rates of inclination. This proportion between the pump and the tube enables trains to be propelled 50 to 60 miles per hour, and will draw a train of 200 tons on a level.

Will draw	80	tons	up an incline	rising	1 in 160.
"	72	"	"	"	1 in 140.
"	65	"	"	"	1 in 120.
"	58	"	"	"	1 in 100.
"	53	"	"	"	1 in 90.
"	48	"	"	"	1 in 80.
"	44	"	"	"	1 in 70.
"	39	"	"	"	1 in 60.
"	33	"	"	"	1 in 50.

"The cost of the atmospheric apparatus complete, and placed on the line, is £4300 per mile; and of the steam-engines, vacuum-pumps, engine-houses, etc. £1000; total, £5300. It would scarcely be useful to notice the other items that are necessary to complete a railway on this system, as the earthwork will vary materially according to the nature of the country through which it passes. In a difficult country the saving from adopting such gradients as would be suitable for the atmospheric instead of the locomotive, would considerably more than equal the entire £5300, while on a level or easy country a balance of expense would remain against the atmospheric system up to this point. In all cases the smaller quantity of land that would be required, the diminished size of the bridges, the lighter rails, the absence of all coke and water-stations, workshops, and stock of locomotives, will have to go to the credit of the atmospheric system against the cost of vacuum tube and engines."

* * * * *

"Among some interesting experiments made at Dalkey are the following. The first series shows the uniformity of the sealing process. During the same day, and after the running of each train, observations were taken of the time required to re-form the vacuum to the height of 15 inches, which was as follows:—

After the	4th	trip	the barometer	rose to	15 inches in 1′ 45″
"	5th	"	15	"	in 1 40
"	6th	"	15	"	in 1 42
"	7th	"	15	"	in 1 40
"	8th	"	15	"	in 1 45
"	9th	"	15	"	in 1 40
"	18th	"	15	"	in 1 42
"	19th	"	15	"	in 1 45
"	21st	"	15	"	in 1 45
"	22nd	"	15	"	in 1 43

"The second series shows the amount of leakage due to the longitudinal valve, as separated from that due to the air-pump, travelling piston and station valves. In the following experiments the vacuum was in every instance

raised to 22 inches; the engine was then stopped and the tube was allowed to fill with air by the leakage (from all sources) into it.

With the train at Kingstown,
the gauge fell 18 inches, *i. e.* in.
from 22 inches to 4 inches, in 11 33–100th,
Advanced 1–4 mile " in 10 88–100th,
Advanced 1–2 mile " in 10 76–100th,

the leakage being at the rate of *one inch* in 36·83 sec. in the first instance, *one inch* in 36 sec. in the second instance, *one inch* in 35·91 sec. in the third instance,—showing the additional leakage from the long valve to be only so much as was represented by the gauge falling per inch $\frac{83}{100}$ of a second quicker in the first instance and $\frac{9}{100}$ of a second in the last, and the additional power to compensate this being all the increased haulage power required per half mile. This is an experiment of no ordinary interest, inasmuch as it confirms the notion that the advocates of the system have long urged for it, namely, that every extension of the length is attended with increased advantages, and that while the Atmospheric Railway is equally applicable to short as to long lines, it is by no means applicable only to the former, which its successful application on a short line has induced many to imagine."

We had cited the above experiments, before the appearance of M. Mallet's Report; they however give substantially the same results and figures, but in a more condensed form. Subsequently to the appearance of M. Mallet's first report in the French journals, a second and more detailed one, addressed by him to the French government, has been published in Paris, and an English translation in London. That gentleman states, that "the fame of the success of this second experiment, made on a scale far greater than that at Wormholt Scrubs, spread itself into France. Immediately M. Teste, the minister, and M. Le Grand, Under Secretary of State of the Public Works, whose attention had been roused by the previous report of M. Teisserenc, desirous to know all the improvements and advantages of a system which might exercise so great an influence on the future prospects of rail-roads in France, gave me an order to embark for Ireland."

This Report is divided into four chapters: the first contains a description of the line from Kingstown to Dalkey, of the apparatus, and details of experiments; the second chapter treats of the application of the atmospheric system to railroads in general: the third gives the comparative expense of laying down a locomotive railway and one on the atmospheric plan; and the fourth gives the comparative cost of working on the two systems. We have had occasion to cite many remarks contained in this Report, regarding the general merits of the atmospheric railway; and it is unnecessary to review it critically. It is the most valuable document that has yet appeared on the subject: the chief part is occupied with a minute and careful detail of the experiments which M. Mallet instituted on the Dalkey railway, and upon which his opinions are founded. These merit a close examination, and will be peculiarly valuable to scientific men interested in the subject of railways. M. Mallet examines every advantage and disadvantage of the atmospheric system,—its applicability to existing and new lines, and under every circumstance attending construction. The English translation of this Report is of much less value than it might have been, had the French measures and values been reduced to the English equivalents; but a point of still greater importance (and which we are surprised not to see noticed by the translator) is, that all the calculations of M. Mallet are founded upon the French prices of iron and of labor—naturally so in a report addressed to the French government; but unless this fact is borne in mind, throughout the calculations, and the difference noted between the English and French prices of iron, the reader is liable to be seriously misled. Premising this remark, we observe that M. Mallet calculates that, in the cost of construction, the atmospheric system would effect a saving of one-seventh, and in the cost of working a saving of two-fifths. The same calculation, made upon the value of iron in England, would show of course a much greater reduction. M. Mallet examines carefully and impartially every objection which has been, or is likely to be, raised to the atmospheric system; and in concluding this part of his Report he says:—

"I do not think I have omitted any of the objections which have been pointed out to me. Several are worthy of being taken into consideration. But do any of them present insurmountable difficulties? Are they of a nature to induce us to abandon the invention? I do not think so, and therefore I advocate a trial. If the system had already arrived at perfection no trial would be necessary; we should have but to lay down the works, certain of success; but in spite of the enormous step shown to have been gained in Ireland, much yet remains to be done. Let its judges remember what the locomotives were at their commence-

ment, and the enormous amount of improvement they have experienced during the last twenty years."—*Page* 32.

There are many other points, connected with the construction and working, examined by M. Mallet, to which we should have referred, did our space allow,—with respect to the crossings, for instance, which we shall give in M. Mallet's words, with a suggestion he offers :—

"They are done precisely as on the locomotive roads; for this they divide the pipe; but not to destroy the continuity of the aspiration, the two divided pipes are connected by means of another pipe sunk in the ground, which curves back at a right angle at its two ends, to branch into their lower portion. The points of junction are above the valves of entrance and exit, which the interruption of the pipes compels them to put at their extremity. When in a proper state for use, the valve at the extremity of the pipe at the side by which the train would arrive is closed, as well as the entrance-valve of the other pipe. When the leading carriage appears, the first will be opened as usual by the compressed air driven forwards by the piston, Another valve, placed in the pipe of communication, will be closed at the same time by the effect of the passage of the train. That at the entrance of the next pipe will be opened, when the piston shall have entered this pipe, by the valve-man, or, what is better still, by the train itself. Another means which might be employed consists in not dividing the pipe, but making two inclined planes at 0·05° of slope, per meter, for the passage of carriages. In this case three openings are required, two for the wheels of the carriages, and the third for the piston-rod, the wheel which presses the valve and the cylinder which compresses the composition. The openings would be too large and too deep to allow of their being left uncovered. It would be easy to adapt thick planks of deal, with a counterpoise for this purpose."—*Page* 29.

In having occasion to consider attentively and to cite from the official reports presented to the English and French governments, we regret to have a comparison forced upon us disadvantageous to the former. The object of a government, in appointing competent judges to report upon any scientific subject, is not merely to have objections raised and difficulties suggested, but to have every advantage as well as every defect of the system explained intelligibly and impartially. This is the view which M. Teisserenc and M. Mallet have taken of their duty; they have given precisely the information, fully and candidly, which might enable the French government to form thier opinion on the merits of the invention, and their Reports contain a large body of valuable information and remarks. In the English Report, whilst the applicability of the atmospheric principle and its advantages, in point both of economy and safety, are distinctly admitted, these admissions appear to be unwillingly extorted, and every advantage is reduced to its minimum of computation. In the French Reports, the importance of trying the merits of the invention is pressed upon the government, and an earnest desire is manifested to promote the investigation of a great work of national importance.

The historical sketch of the invention and application of the atmospheric railway here terminates; it is no longer an experiment, but an established means of transit, tested and proved by fair and repeated trials, and by the opinions of the most eminent engineers,* English and continental, who have witnessed and watched its success, and expressed their opinions satisfactorily upon the subject. Indeed it is this testimony that has induced us to offer the present article to our readers: we waited until practical results had been obtained, and the merits of the invention had been placed beyond a doubt, before we felt it right to express an opinion. It had ceased to be a question limited to the circle of purely scientific inquiry, and now comes to be regarded in the results of its application; the power being once obtained, it remains only for enterprise to accomplish the rest, and to render it available to the service of man. The subject of the atmospheric railway has, since the opening of the Dalkey line, excited a daily growing interest, and the attention of governments and companies is drawn more and more to the adoption of the system.

In the course of a recent discussion in

* Amongst the opinions expressed by the most eminent of our Engineers is that of Mr. Brunel. The prospectus of the Gravesend and Chatham Company, which has recently appeared, contains a recommendation of the Committee, founded upon the opinion of their engineer, I. K. Brunel, Esq., to adopt the atmospheric system. The prospectus states that—"The Committee, having made a satisfactory inquiry as to the decided economy with which the Dublin and Kingstown Extension Railway is now being worked as an Atmospheric Line, and their Engineer having satisfied himself as to the advantages this plan of motive power affords, recommend its adoption on the proposed line of communication, both as a means of keeping the capital within a very moderate compass and increasing the profits by a reduced charge of working."

the House of Commons, on the appointment of a select committee to consider the standing-orders relating to railways, Sir Robert Peel stated that he concurred in the opinion,—

"That the public and the government are not to be precluded from availing themselves of any suggested improvement or invention of science, which may probably affect the present railway property; as also in the remark that we are not to be called on to compensate a company for its choosing a line upon which it may have been found necessary to expend £60,000 per mile. Far from it; if you can successfully compete, by means of any invention, upon a turnpike-road with such a railway company, you are perfectly at liberty to do so. If new discoveries are made applicable to rapid conveyances, the public will avail itself of them, and those improvements will always be the best security and check against imposition or exaction. What may be attempted by means of the atmospheric railroad it is difficult to conjecture; but I know that those who have witnessed its exhibition near Dublin, have returned to this country with changed opinions as to its applicability to longer lines than one or two miles. The proprietors of railways must soon find out that they are deceiving themselves if they neglect to provide third-class carriages. But the true interests of society will best be protected by holding over them the checks of competition, and of the improvements that may take place in science, rather than by attempting forcibly to control these companies, by attempting to reduce their profits or take the management of their property out of their own hands."*

This is the sound and only safe course of legislation,—to encourage competition, is an indirect and proper means of checking monopoly.

In consequence of the determination of the Government to continue the mail-packet station at Holyhead, a line of railroad is projected from that place to join the Chester line. With a view to ascertain the practicability of adopting the atmospheric principle on this line, (chiefly as a means of obtaining for the mails a considerable increase of speed,) Mr. Robert Stephenson has been desired to examine the works on the Dalkey railway, and to furnish a report to the Government.

We shall, in conclusion of this article, briefly allude to some of the advantages which may be derived from the adoption of the atmospheric railway, in a social, industrial, and commercial point of view. We have here a new and astonishing application of power opened to us, and it is impossible to anticipate all the important results to which this may lead. Success has silenced the questionings and hostility of interested opponents to the system; and if men are wise, they will at least pause before they rush into new speculations on a system which will probably soon be superseded.

The introduction of the atmospheric railway opens a new era in the means of transit, because, from the great reduction in the cost of construction and working, it is clear that we must enter upon an entirely new scale of economical calculations. This will operate in manifold ways: it will enable railway companies to lower their rates, whilst deriving even greater profits than at present, and thus to open means of travelling to larger classes of the community. Again: one great feature in the atmospheric railway is, that it is practicable on lines of road where the locomotive system is wholly inapplicable and useless. Let any one take a map of England and trace the net of railroads which have come into active operation within a few years: let him imagine this immense benefit, which at present is restricted by the cost attending it to traffic between large towns, extended over the whole country, carrying passengers and produce from one little market-town to another, bringing all this advantage to every man's door, and placing it within every man's enjoyment. The benefits to the nation, in calling out her industrial powers, assisting her commercial, manufacturing, and agricultural interests, form too large a subject for us to enter upon here, but too obvious and important a consideration to escape attention. In a moral point of view, likewise, the result would be to extend largely the advantages of social intercourse and of education in every shape, which are now only to be found in large communities,—in fact, of centralizing the power and raising the moral character of the nation.

We have uniformly urged the importance of calling into action, by multiplying facilities, all the sources of our national wealth; and we have pointed this out as one great means of substantially benefiting Ireland. To unfold the resources of a country, is to teach a people their value,—the most important lesson of national politics and national economy conveyed in the most practicable and intelligible form. It is impossible to estimate the change which a

* See Debate of February 6, 1844.

large system of railroads intersecting Ireland in every direction, stimulating production and exciting the energies of her population, would produce; and if that country, whose interests we are bound to promote, not less from motives of policy than of justice, has a claim to share in any great work of national benefit, it has an especial claim in the present instance, where Irishmen have been foremost to second the efforts of English skill and talent, and to overcome the obstacles opposed to the public good by private interests and monopoly. If the atmospheric railway should prove, as we anticipate, a new source of benefit to mankind, it will be remembered, not ungratefully in this country, that to Ireland we owe its first encouragement and adoption.

Extending our view to the Continent, some idea may be formed of the extent to which the nations of Europe will be benefited by this invention of Mr. Clegg, from the length of the lines of railways now constructing in central Europe.*

In Austria the line from Trieste to Vienna is progressing. The atmospheric pressure removes the grand difficulty presented within a short distance of the capital, at the traverse of the chain of Alps which forms the boundary of Styria. Without such aid it would be a most costly work to carry a railroad over the Noric and Carnian Alps to the sea, even if the plan of inclined planes were resorted to. From Vienna the line passes to Olmütz, where it branches off westward through Prague to Dresden and Hamburg. From Olmütz a second line goes northward to the Riesen mountains, and through Silesia to Stettin. A third line, which runs to the salt mines of Galicia, will join the Russian railroad from Cracow to the Baltic, by the valley of the Vistula. In mountainous countries, the momentum acquired from descents is available for succeeding ascents, and the difficulties in the one system become facilities in the other.

The prosperity of Hungary is indissolubly linked with a good communication between the valley of the Save and the Adriatic Sea. A road of sufficient width, and of splendid construction—a monument of the public spirit of the Hungarian nobles—runs over the Julian Alps from Carlstadt to Vienna; its length is ninety English miles. The atmospheric apparatus could profitably be adapted to that road, whose gradients, although moderate, no locomotive engine could overcome. In this manner, the energies of twenty millions of Austrian and Turkish subjects would be made available in the markets of Europe, and the products of some of the finest countries of this quarter of the globe would be added to the general stock.

Berlin is to be connected with Hamburg by a direct line, and with the Rhine by two lines of railways. One will pass through Minden to Düsseldorf and Cologne, and there unite with the Belgic-Rhenish net. A second will pass through Cassel to Frankfort, and join the Taunus railway. To the east, a line to Königsberg is projected. From Frankfort, Hesse Darmstadt is continuing the Taunus line to Heidelberg and Mannheim, where the Baden net will take it up, and carry the communication on to the Swiss frontier. A railway is now constructing from Basle to Zürich. The Wirtemberg net of railways will connect the Baden and Hessian nets with the lake of Constance and with Bavaria: they cross the heights that separate the Rhine and its tributaries from the Danube. One line of this net, which has been considered scarcely practicable, is that from the Rhine by the way of Pforzheim and Stuttgardt to Ulm, in which the ascent at Geisslingen is looked upon as insurmountable. By the aid of the atmospheric pressure this obstacle can be overcome, and the Rhine be connected with the Danube at the shortest interval. The Bavarian net is to consist of a central line running from the foot of the Alps to Saxony, which is to be traversed at right angles by a line from the Austrian to the Wirtemberg frontier, passing through Munich to Augsburg.

A most important decision has been made in Bavaria, to commence the line that is to connect Bamberg with Frankfort immediately. The country between these two towns is so mountainous, that it would require an immense outlay to construct a locomotive railroad. The atmospheric railroad, by availing itself of the principle of gravity, might perhaps be even more economically adapted to such a line than to a level.

Of the immense advantages which these vast countries will derive from the adop-

* At the end of last year there were twenty-one lines of railroad open in Germany, the total length of which was 1083 miles. The railways then in progress would extend to nearly 1000 miles. Since that period many others have been projected.

tion of the atmospheric pressure to railway carriages, it is therefore needless to say much. The anxiety entertained in all these countries to be released from the necessity of providing coals for these lines, has been proved by the reward of 100,000 florins voted by the Germanic Diet to the inventor of a galvanic machine at Frankfort. It is true that the machine has not been finished, and the money is consequently not yet paid. No machine depending upon a moving principle scarcely less costly than coals, can pretend to vie with the beautiful simplicity of the atmospheric pressure.

It is not merely the difficulty of providing coals that is an obstacle to railways on the continent. The cost of carriage of such a bulky article, in a country where the communications are indifferent, is a serious inconvenience, and one that, on the large net of railways we have described, would form an enormous drain upon the industrial resources of the country. A similar difficulty presents itself in central India, where railroads connecting the capitals have become almost indispensable, both in a military and in a political point of view. With the atmospheric system, the difficulty of collecting depôts of coal is obviated, and we may soon expect to see a railway connecting Bombay and Calcutta.

In this article we have endeavored to give our readers, first, an historical sketch of an invention which promises to realize such important benefits; secondly, an intelligible description of the construction and working of the apparatus; and thirdly, an examination of the merits of the system. We have consequently deemed it necessary to extract largely from all the reports and documents hitherto published, in separate and detached forms,—to cite the opinions of those eminent engineers who have instituted experiments and carefully examined the system in all its bearings, and lastly, to give the results obtained on the trials that have been made: these are of a peculiar value at this stage of the invention, as affording facts upon which calculations and reasoning may be grounded. We have carefully considered what might be most serviceable to the public to know; and in conclusion must express a hope, that the recommendation urged upon the French Government by M. Mallet, to give the system a fair and full trial, will not be thrown away upon the Government of our own country.

LINES.

BY MRS. C. J. PARKERSON.

From the Metropolitan.

"Hence, dull reality,
Hence, for a while,
Airy-built visions
Thy cares can beguile;
Leave free this bower
From sorrow and strife,
And the stern nothings
Of every-day life.

"Fancy, conduct me,
With wide-spreading pinions,
Together we'll visit
Thy fairy dominions;
We'll roam through the regions
Of beauty to-day—
Spirit creative,
Away and away!

"Weave me a garland
Of rainbow-dyed flowers,
Lotus and amaranth
Bloom in thy bowers;
O'er woodland, o'er mountain,
O'er ocean, we'll stray—
Spirit unbounded,
Away and away!

"Lead where the waters gush,
Under the willow;
Lead where the rose's blush
Tinges the billow.
Lead where through verdure gleams
Light's softened ray,
When the sun's quivering beams
Dart through the spray.

"Here would I wander
In spirit beside thee,
In the soul's intercourse
Fate has denied me.
The orange is bringing
Its scent-burdened air,
And fountains are flinging
Their pearl showers there.

"The eglantine's canopy
Waves o'er our head,
Green turf is our carpet,
With violets o'erspread.
Bright flow'rets are wreathing
In myrtle's dark spray;
The bulbul is breathing
Her soul-thrilling lay.

"Pictured enchantments
Unclouded by care,
Fairy-bright fabrics
Upraised in the air;
How quickly ye vanish,
Fond spirits can tell—
Beautiful vision,
Farewell—oh, farewell!"

CONFESSIONS OF AN ILLEGIBLE WRITER.

BY MRS. ABDY.

From the Metropolitan.

"My good fellow," said my school-fellow George Gordon to me one morning in the play-ground of Somerton Academy, "why do you not pay a little attention to your hand-writing? Your characters appear to be traced rather with a skewer than a pen; your i's are guiltless of a dot, and I only wish I may go through the world as free from a cross as your t's. Your capital M's are a decided failure, your H's are below criticism, and no one, even with the aid of a microscope, could detect the difference between your a's and your u's."

Now I considered this speech of George Gordon's to be rather vain-glorious, inasmuch as he had just completed that elaborate and laborious performance denominated "a school piece," which had not only gained him the prize for writing, but had elicited a sovereign from his maiden aunt, accompanied by an observation that "one could hardly tell it from copperplate;" in fact, Mrs. Ronalda Gordon evidently considered it the finest work of art that had ever astonished the world since the completion of her own school sampler, forty years ago.

"Perhaps, Gordon," I replied, "you will remember who carried off the prizes for classics and mathematics; I am not without a few laurels to rest upon, and need not very much covet that skill in penmanship in which I may be rivalled by a charity boy."

"True," he replied mildly; "I submit to your superior genius, Seyton; but remember, the elephant, which can lift a heavy weight with its trunk, does not disdain to pick up a pin. I do not want you to excel in penmanship, but only to write a legible hand; depend upon it, if you do not improve, your scrawl will involve you in serious difficulties all through your life."

"What kind of difficulties?"

"Suppose you write for the press; how curiously your effusions may be misrepresented."

"O, I can correct the press."

"Would it not be easier to correct your own bad habit, while you have yet time to do it?"

"It is a mark of a little mind to affix so much importance to the hand-writing."

"Such opinions are not confined to little minds; Hannah More says that 'to speak so low that nobody can hear, and to write a hand which nobody can read, may be classed among the minor immoralities.'"

"Now you come to quotation, I must put an end to the conversation; it is bad enough to listen to your own wisdom, but I cannot be overwhelmed with lectures at second hand."

George Gordon, although only a schoolboy, had attained a command over himself which many men pass through life without acquiring; he could occasionally allow an antagonist to have the "last word;" he did so to me in the present instance, and the conversation dropped. I was fifteen at that time, and am now thirty, and had George Gordon possessed the power of predicting future events boasted by some of his second-sighted countrymen, he could not more correctly have prophesied the evils in store for me from my atrocious handwriting.

I might fill a novel, containing the prescribed allowance of a thousand pages, were I to recount all my disasters;—but alas! why do I talk of writing a novel of a thousand pages—how should I ever get it brought before the public? Even if the bookseller's "reader" were in so peculiarly beneficent and amiable a mood as to recommend what he was unable to decipher, it could never go through the press—there would be a general strike and mutiny in the printing office! I will therefore confine myself to three leading events of my life, and as I know that every body likes love stories, especially when they have an unfortunate termination, I will relate the manner in which I thrice lost the lady of my love by the bad management, not of my suit, but of my pen.

Most young men fall foolishly in love for the first time, and I believe I might once have entertained a slight predilection for my sister's drawing mistress, but it soon passed off, and my first real love was chosen with such prudence, that admiring fathers held me up as an example to their sons, and wary uncles told their nephews to follow in my steps.

Miss Hartopp was an orphan heiress, very pretty, and twenty years of age; she lived with a guardian, and he, like the guardians in comedies and farces, had a son whom he wished her to marry; but I had engaged the affections of the lady, and purchased the good will of the Abigail; a

year, at all events, would soon pass away, and I had already settled how delightful a country villa I would procure, and how stylish a curricle I would drive, when I became a happy Benedict. The guardian, Mr. Crofton, had a country house at Richmond, and removed thither with his ward in the middle of May. The day after their departure, I received a note from a friend residing at the same place, asking me to dine with him on the ensuing Thursday. I accepted the invitation, determined to quit him at an early hour, and wrote to Miss Hartopp, under cover to Davison, the Abigail, imploring her, at ten o'clock on the ensuing Thursday evening, to contrive to meet me on a smooth grass walk upon which the garden-gate of her guardian opened. She returned a favorable answer to me, assuring me that she would meet me on the appointed evening, and I considered my fortune made for life. Now, one of the atrocities of my handwriting was, that I always wrote Thursday in a way that looked exactly like Tuesday, and this mistake led to the events afterwards detailed to me by Davison, and which I will immediately lay before my readers.

At ten o'clock on Tuesday night, Miss Hartopp, accompanied by the faithful Davison, stole down the garden, unlocked the gate, and emerged on the grass walk, which happened to be exceedingly damp and dewy. Poets are accused of telling many untruths; they never tell more than when they write about the delightful month of May. Its bright warm mornings and soft balmy evenings are generally visions of the imagination. May is, no doubt, very charming in Italy; but in England, I constantly associate an evening ramble in that month with a tooth-ache and a flannel wrapper!

The wind blew coldly; Miss Hartopp was picturesquely arrayed after the fashion of Lucy Bertram, in the opera of Guy Mannering, in a hat and feathers, and a floating scarf; she arrived at the spot just two minutes after the clock had struck ten, and fully expected to find me in waiting for her. She was doomed, however, to be disappointed; and wrapping her scarf closely round her, paced up and down the green walk as rapidly as she could, hoping to warm herself by exercise; but alas! at every turn, the thick dew of the grass saturated more thoroughly the sole of her delicate satin slipper. It was now a quarter past ten, and a small drizzling rain began to fall; neither Miss Hartopp nor Davison had thought of providing against such a casualty: nobody requires parasols at ten o'clock at night, and who would think of conveying an umbrella to an assignation? The feathers in Miss Hartopp's hat began gradually to droop and bend, and the bows of ribbon in Davison's straw bonnet assumed a sympathetic depression; no lover appeared on the walk, but in his stead came several large frogs, visitants for whom both mistress and maid felt the most unqualified terror and detestation. After waiting half an hour longer, they returned home, cold, wet, and desponding, Davison entertaining the belief that I had fallen into the river, and been drowned for want of assistance; and Miss Hartopp leaning to the opinion that James Crofton had way-laid and murdered me.

The next morning Miss Hartopp had a severe cold, and was not able to leave her bed till the middle of the day; she found her guardian's son, who had just arrived from London, alone in the drawing-room. Her first impulse was to shrink from him in horror; her second to elicit confession from him by a sudden question, or at all events to entrap him into some sort of demonstration of his guilt; she entered the room, leaning on Davison's arm, and kept tight hold of her, that she might cite her hereafter as a witness in a court of justice.

"When did you see William Seyton last?" interrogated the heiress in a deep tone.

"Last night," replied young Crofton, very readily.

"At what hour?" pursued Miss Hartopp, fixing her eyes on him with searching earnestness.

"About half-past nine," returned the supposed assassin.

"How guilt betrays itself!" mentally moralized the heiress.

"Name the spot on which you encountered him," she continued, in a Siddonian accent.

"My dear Anne," said the young man, looking up with some surprise, "do you imagine that I have been fighting a duel with Seyton?"

"No, I do not," she answered in measured and mysterious tones.

"I will give you every particular of our interview most willingly," said James Crofton. "Yesterday evening I was caught in a shower of rain in the Strand; and as at that moment I rested my eyes on a bill announcing that a celebrated conjurer (or il-

lusionist, I believe, is the fashionable term) was exhibiting his trickeries, I was tempted to walk in, principally to procure shelter, but was really very well amused. I had not been long there when Seyton arrived, and took a vacant place by my side; he told me, that having an idle evening on his hands, he thought that he would come and see if he could penetrate into the mysteries of legerdemain; we conversed together very amicably and pleasantly, and even held a piece of tape between us, which the man of magic, after cutting through the middle, succeeded in re-uniting. I never saw Seyton in better spirits; and I assure you that I neither said nor did any thing to depress them."

The frank good-natured openness of the young man carried conviction with it: Miss Hartopp's fear was converted into indignation; in her "mind's eye" she saw on one side her own blighted hopes, slighted affections, ruined feathers, and soaked slippers; and on the other the conjuror, the crowded audience, and the laughing false one who had so cruelly sported with her feelings.

"I do not take the slightest interest in Mr. Seyton," she said, tossing her head; "I think him the least agreeable young man I ever saw in my life."

"Not quite so bad as that," said James Crofton, smiling with infinite delight; "but upon my word, you show great judgment in your opinion of him; he is not at all deserving of the attention of so fair a lady."

"Davison, you may go," said Miss Hartopp, sinking languidly on a sofa.

The conversation between the young people lasted for an hour; when Mr. Crofton entered the drawing-room, his handsome son advanced to meet him, looking, as the Persians say, "as brilliant as the sun, and as placid as the moon;" and Miss Hartopp ran up stairs, and communicated to Davison that she had just accepted James Crofton. Davison instantly wrote to me an account of the affair; she put her letter in the post that evening, and it reached me on Thursday, in sufficient time to prevent me from feeling any inclination to go and dine with my friend at Richmond.

I wrote to Miss Hartopp under cover to Davison, explaining the circumstances, and (forgetting for the time my bad writing) imploring her to refer to my letter, when she would find that I had requested her to meet me two evenings later than the one which she had concluded me to name. She *did* refer to my letter, found what any jury in the world would have unanimously decided to be an unquestionable Tuesday, and enclosed it to me in a blank cover with the word scored under! A month afterwards she was Mrs. James Crofton.

Two years elapsed before I fell in love again. Emily Brooks was, like my first love, an orphan, but she was three-and-twenty, and emancipated from the control of guardians; her fortune was ten thousand pounds, and she resided with a family of friends in a country town, where I first became acquainted with her while staying on a visit in the neighborhood. She received my attentions favorably. Mr. and Mrs. Williamson, her friends, had fortunately no unmarried son; and although the young doctor of the town was evidently much smitten with herself or her ten thousand pounds, she decidedly gave the preference to me.

I was suddenly called up to London on business, but promised to return in a fortnight. I felt anxious to write to Emily, but was afraid she would deem it a liberty; fortunately, however, she was a subscriber to a public charity, and I resolved to write to her to solicit her vote for a *protégé* of my friend George Gordon's. I bought some beautiful French paper and a box of silver wafers for the purpose: took a newly-made pen, and achieved a much more decently written letter than usual. Before I put it in the post, I resolved to call on Emily's uncle, Mr. Drewett, a wealthy merchant in the city, with whom I had some acquaintance. I met him, however, in St. Paul's Churchyard; he stopped and accosted me in a very friendly manner, and was evidently in high spirits.

Mr. Drewett was one of those men who seem born to good luck; he had a handsome wife, pretty children, pleasant friends, and a flourishing business; he had only one ungratified wish, and this he had for years had sense enough to bury in his own bosom, and never revealed it to any one till the time of its fulfilment. That time had now come,—Mr. Drewett was a baronet,—and when he informed me of his new honors, I was quite delighted to think that I should be able to send the news to Emily, who was much attached to her uncle. Before I reached home, I met at least a dozen people, all of whom had seen the new baronet that morning, and been informed by him of his dignities: and, with the exception of a few sarcastic inuendoes respecting "the restless ambition of some people,"

they really bore it better than people generally bear the good fortune of a neighbor.

I found that I was later than I imagined, and had scarcely time to save the post, consequently I only added in a postscript—"have you heard of the baronetcy of your uncle Drewett? it has created quite a sensation in the city;" and remembering George Gordon's remark that it was impossible to distinguish my *a*'s from my *u*'s, I took especial care, for the first time in my life, that the *a* following the *b* in baronetcy should be exceedingly distinct and clear.

I will now, as I did on a former occasion, acquaint my reader immediately with circumstances that only came to my own knowledge at a subsequent period. Emily received and read my communication; the substance of a lady's letter is said to be contained in the postscript; how truly did that observation apply in the present instance to the postscript of a gentleman! What was the horror of Emily to read an inquiry whether she had heard of the *bankruptcy* of her uncle Drewett! She gave one loud shriek, which brought the whole house to her assistance, and then went into violent hysterics. Lest Emily's sensibility should be thought by my readers to be rather greater than the occasion demanded, I will explain to them the reason which made her peculiarly sensitive in regard to the commercial prosperity of her uncle. When she came of age, she took possession of her property of ten thousand pounds, but on consulting Mr. Drewett respecting the permanent investment of it, he advised her to intrust it to him to employ in his business, promising to pay her much better interest than she would gain in the funds; the ruin of her uncle, therefore, involved her own. Mrs. Williamson called for burnt feathers, hartshorn, and *eau de cologne*, sent for the young doctor, and then took up the letter, no doubt imputing the hysterics of her young friend to a disappointment in love. She found, however, that the case was much worse than she had surmised; Emily had confided to her, (and through her means the whole town had become aware of it,) that she had placed her fortune in the hands of her uncle, and when the poor girl revived to consciousness, she found her affectionate friend sitting by her with the letter in her hand, and kindly advising her "not to give way so, but to remember that she had received an excellent education, and that it was no disgrace to any body to earn their own maintenance!"

Just then the young doctor hastened into the room on the wings of love, having preferred trusting to his own speed, rather than wait till an elderly, wheezing, ragged-looking horse, who could not walk half so fast as himself, was harnessed to his gig. He entered the room while Mrs. Williamson was expressing her fears that Mr. Drewett must have been very speculative and improvident, and a few questions put him in possession of the facts of the case.

"Miss Brooks must not agitate herself," he said, "nothing is so bad for the health as depression of the spirits."

Mrs. Williamson rejoined that it was extremely wrong in any one to suffer their spirits to be depressed, related some anecdotes of the cheerfulness with which the French emigrants bore their misfortunes, and instanced the case of a fascinating countess in particular, who had been reduced from a magnificent château at Versailles, to live upon fifteen pounds a-year in an attic in St. Martin's Lane, and was always the life of every society in which she moved!

Just then the young doctor jumped up, vehemently struck his forehead, and declared he had that moment remembered that Mrs. Goodwin, who lived five miles off, and was the most anxious nervous mother in the world, had feared the day before that her six children were sickening with scarlatina, and, no doubt, was accusing him of great neglect and unkindness in not calling to inquire after them; therefore, as his friend Miss Brooks was doing so exceedingly well, he must run home without delay, and order his horse to be harnessed. Accordingly he disappeared, not having, as was his wont, ordered three pale pink draughts a day for his patient, probably because he thought that the means of payment for needless luxuries might not in future be very abundant in the exchequer of his beloved.

Poor Emily was completely overcome by the coolness and *nonchalance* of her friends, who, although born and bred in a little third-rate country-town, exhibited, it must be admitted, all the worldliness of St. James's; she requested that a postchaise might be immediately sent for, as she was anxious to go to London, and mingle her tears with those of her uncle and his family. Mrs. Williamson paused for a moment, but remembering that Emily had asked for change for a twenty-pound note the day before, and that her quarter's board was

always paid in advance, could not foresee any ill consequences from indulging her desire, and even graciously commended her for it.

"Perhaps something may yet be saved out of the wreck, my dear," she said, "and it is well to be on the spot, to see what is doing; besides, people in trouble always get on best in the society of each other."

"They indeed seem to be very unwelcome inmates in the abodes of the happy," sighed Emily, as alone, unprotected, and sorrowful, she ascended the steps of the postchaise which was to bear her to London.

She was a kind, warm-hearted girl, and although deeply deploring her own misfortune, she also acutely felt for her honorable and respectable uncle, no longer able to take his station among the good and safe men of commerce, and likewise for her aunt, losing the luxuries which long habit must have made her regard as necessaries, and for the poor children, some of whom were old enough to value the advantages of affluence, and to feel the deprivations of poverty. A few hours brought Emily to London, and the chaise drove up to her uncle's house, in Russell Square, at about half-past six o'clock. Sir David and Lady Drewett were on that day entertaining a party of friends, whom the baronet had invited to dinner for the purpose of celebrating his new honors; they were all assembled in the drawing-room, and waiting the announcement of dinner, when Emily, pale, weeping, and wearied, rushed into the room, disregarding all the efforts of one servant to announce her, and of another to disencumber her of her cloak. About a dozen portly, comfortable-looking lords of the creation, and the same number of gaily-dressed, perhaps rather over-dressed ladies, occupied the drawing room; the lights were blazing brilliantly. Lady Drewett, in a new corn-flower blue satin dress, and an elaborate cap with long blonde streamers, sat placidly smiling on her visitors, the picture of good-humor, health, and affluence. Her children were arrayed in all the perfection of crisp book-muslin frocks, and exquisitely shining hair, and the new baronet was talking to a little knot of friends, and laughing louder and looking happier than he had ever done in his life. Emily's appearance excited great astonishment. Lady Drewett advanced to meet her, perfectly horrified at her dusty travelling dress and straw cottage bonnet.

"My dear Emily, what has happened?" she asked.

"O my dear aunt!" replied Emily, "you know too well what has happened. How can you bear the restraint of company in your present unhappy situation?"

"What are you talking about, Emily?" said her uncle, who had broken from his companions as soon as he recognized her. "All my good friends have met at my house to-day to congratulate me on my good fortune."

"Good fortune!" sighed the mystified, bewildered girl, thinking of the wreck of her ten thousand pounds. "I am acquainted with every thing, uncle; I have come not to reproach, but to console you. This morning I was made aware of your failure in business."

Sir David burst into a loud laugh, and repeated the words of his niece to several of his friends; in a moment, however, he knit his brows, and looked very angry. "Some rascal has been spreading slanderous rumors about me, to injure my credit," he exclaimed; "you will, doubtless, give me up his name, Emily?"

"Willingly," replied his neice.

She had deposited my letter in a black velvet reticule, which, unlike the generality of ladies, she had not left by mistake on the seat of the postchaise; it was hanging over her arm, and she speedily presented her uncle with the "document," as a lawyer in company called it, which identified the "slanderous rascal" in question with my unfortunate self!

Dinner was just then announced, Emily retired to another room, to compose her spirits and arrange her curls, and my letter was handed round at the dessert, in company with the sliced pine-apple and preserved ginger.

"It is the clearest case of defamation I ever knew in my life," said the lawyer. "Here is the signature and address of the slandering party, and also the date of the month and year; the letter is addressed to Miss Brooks, and you are characterized as her uncle Drewett. There is not a mere obscure insinuation as to any possible involvement of your circumstances, but there is a distinct statement of your bankruptcy, with the accompanying comment that it makes quite a sensation in the city. The matter *must* be taken up; it is a duty to society to do so."

"To be sure, to be sure," chorused three or four of the "fat friends" of the

master of the house; "such a thing might happen to any of ourselves; an example ought to be made of this young fellow."

"May not Mr. Seyton's assertion be what the aristocracy call a hoax?" asked a little quiet man, who sat deliberately peeling an orange, and had not hitherto spoken.

"Sir," replied the new baronet, "there is no intermediate path, in my opinion, between truth and falsehood, and I shall always hold it the true aristocracy to hold to the first, and despise the last."

So excellent a sentiment, from a gentleman in his own house, could not be allowed to pass unnoticed, and there was a great knocking of hands upon the table, and shuffling of feet beneath it, accompanied by sundry exclamations of "Well done, Sir David—spoken like a man and a Briton."

The next day, instead of being favored, as I had hoped, with an answer from Emily, I received, to my great surprise and annoyance, a lawyer's letter, informing me that an action for defamation was to be instituted against me at the suit of Sir David Drewett, I having asserted his bankruptcy in a written communication to his niece, Emily Brooks. I saw in a moment the source of the mistake, and determined to call on Sir David Drewett without delay, and explain the circumstances to him. I took with me George Gordon, who I felt would be a valuable witness in my favor on two accounts; first, because he could depose to the early and hopeless wretchedness of my hand-writing, and, secondly, because he had passed the preceding evening at my house, and I had told him that I had written to Miss Brooks, to ask her vote for the child in whose case he was interested, and that I had informed her of the baronetcy of her uncle, with which I had that morning become acquainted. Sir David received my explanation, and acquitted me of all evil intentions, but told me, with some stiffness and sternness, that my mistake might have occasioned the most disastrous consequences, and that he considered my want of skill in one of the most necessary and important attainments for a young man, who had his way to make in the world, as a serious calamity. I wrote to Emily the next day, apologizing for the uneasiness I had unwarily caused her, and entreating her permission to call upon her. She never answered my letter. She did not return to Mrs. Williamson's, but staid with her uncle till she could select another home. Nor was she long in making that selection. The lawyer to whom I have before alluded was intimate at the house of Sir David, and as he was neither fat nor elderly, appeared to some advantage by the side of the other friends of the family; he was disappointed in not being permitted to conduct an action for defamation against me, but recompensed himself by making love to Emily. In three months after her melo-dramatic entrance into the drawing-room of Russell Square, she became the bride of her Chancery Lane adorer. My affections were not speedily transferred to another. I remained heart-whole for two years and a half, when I became enamored with my third love, who was far more dear to me than either of her predecessors had been.

EARTH A GRAVE-YARD.

BY ELIZABETH YOUATT, AUTHOR OF "THE PRICE OF FAME."

From the Metropolitan.

"Hearts are tombs
Where secret loves are buried out of sight."
J. WESTLAND MARSTON.

If human hearts indeed are tombs
  Where secret loves are buried out of sight,
O! then I wist the earth one grave-yard is,
  All fill'd with sepulchres, pale, cold, and white;
And not less sad, because conceal'd by flowers bright!

Low, sweet laughter haunted every place,
  And beauty meets the eye where'er it turns.
Spell-bound we view earth's glittering coronals,
  Nor dream that they can hide sad funeral urns,
Wherein a life-consuming fire for ever burns.

But oh! a loving faith shall still be ours—
  That nowhere all is gloom!
Each pining heart a rest shall surely find,—
  The sunshine gild the tomb!
And hopes, kept green by tears, more brightly bloom!

THE ROYAL LIBRARY AT COPENHAGEN.—The Conservators have just completed the catalogue of its contents, a work upon which they have been engaged for eleven years. It comprises 463,332 volumes, without the pamphlets and single sheets. It is to be printed and published at the expense of the government. The manuscripts in this library amount to about 22,000, of which only between 4,000 and 5,000 are yet catalogued.—*Athenæum.*

ADMIRAL LORD ST. VINCENT.

From the Edinburgh Review.

1. *Memoirs of Admiral the Right Honorable the Earl of St. Vincent.* By Jedediah Stephens Tucker, Esq. Two volumes 8vo. London: 1844.
2. *The Life and Correspondence, Naval and Military, of John Earl of St. Vincent.* By Edward Pelham Brenton, Captain in Her Majesty's Navy. Two volumes 8vo. London: 1838.

THE name of St. Vincent will justly be enrolled in the first rank of the many eminent characters, that have spread a lustre over the annals of the British Empire during the course of the last three hundred years. As a great Naval Commander, viewed under all the aspects of his professional career, even from his first entrance into the service until he arrived at the highest step, there is something remarkable in his whole conduct peculiarly his own. It was this conduct that made him Commander-in-chief of the Mediterranean, and twice Commander-in-chief of the Channel fleet; being ordered, on the second occasion, to carry the Union flag at the main, having previously held the office of First Lord of the Admiralty, and been advanced to the prominent situation of Admiral of the Fleet; and by this conduct was the successful battle fought with the enemy's fleet, nearly double the force of his own, for which he received from his sovereign the high dignity of an Earldom of the United Kingdom; and, towards the close of his distinguished career, was honored by George IV. with a Field-marshal's baton, in testimony of his eminent services.

Under the guidance, and by the example of such a man, were the most distinguished officers of the time educated and promoted —Collingwood, Saumarez, Troubridge, Hallowell, and Nelson, with many others. 'He was the master and instructor,' says Dr. Parr, 'of Nelson, whom he formed and made a greater man than himself, and then did not envy him.' The Doctor was not far wrong. Lord St. Vincent knew not what envy was: when he found himself so unwell as to be obliged to give up the Mediterranean command, Lord Nelson, on his own behalf and that of his gallant comrades above mentioned, thus writes to him: —'For the sake of the country, do not quit us at this moment. . . . . We look up to you, as we have always found you, as to our father, under whose fostering care we have been led to fame.' And, two days after, he again writes—'We all love you. Come, then, to your sincere friends; let us get you well; it will be such a happiness to us all—amongst the foremost, to your attached, faithful, and affectionate

'NELSON.'

When we find a boy of thirteen, self-taught, self-dependent, and self-denying, tearing himself away from his family with a scanty pittance, unequal even to the provision of common necessaries, and of so marked a character and mind as to have advanced himself to the highest professional ranks and honors; the narrative of the progressive steps of such a life cannot fail to afford a useful, entertaining, and highly instructive example, more particularly to every young midshipman who embarks in the naval service of his country. We shall therefore endeavor, as far as our space will admit, to trace the progress of this illustrious seaman through the whole period of his service.

The two authors named at the head of this article have drawn a portion of their materials from the same source—the old Earl's letter-books; and pretty well have they ransacked their contents—having, between them, extracted and printed not fewer than a thousand letters written by him and his correspondents; of which about six hundred are stuffed into Mr. Tucker's volumes, (three hundred would have been ample for every purpose,) and the other four hundred are huddled pell-mell into Mr. Brenton's, without the least order, and many of them having no relation to the life of Lord St. Vincent.

Mr. Tucker's father was Lord St. Vincent's private and confidential Secretary, afterwards a Commissioner of the Navy, and lastly the second Secretary of the Admiralty, under the naval administrations of Lord Howick (Earl Grey) and Mr. Thomas Grenville. This author had the additional advantage of whatever authentic materials, and we believe they were not few nor unimportant, were left to him by his father, with others from the Earl's family.

Nor was Captain Brenton without pretensions to become the biographer of Lord St. Vincent. His brother, Sir Jaleel Brenton, had served with his lordship, and by his excellent and gallant conduct had gained his friendship; and when the noble Earl, after the death of his lady, made an excur-

sion on the continent, he took with him, as his companions, the captain and his sister, Miss Brenton, the latter of whom continued to manage his household affairs.

Our notices will be chiefly drawn from the 'Memoirs' of the civilian; out of which we shall gather such materials as will best convey a true portrait of the character, conduct, and feelings of this great man. To depict him in his early youth we must, however, have recourse to Captain Brenton's work, where we have a curious piece of autobiography, dictated by the noble lord himself to the captain. One day, this author tells us, he took the opportunity of reminding the old Earl of his promise to relate to him part of his early history. 'His lordship, with his characteristic kindness and frankness, immediately replied—"Come, then, take your pen and sit down, and I will talk while you write." He then dictated to me what follows:—

'I was born at Meaford, in Staffordshire, on the 9th January, 1734, old style. My father was counsellor and solicitor to the Admiralty, and treasurer' (Mr. Tucker says auditor) 'of Greenwich Hospital. At a very early age I was sent to a grammar-school at Burton-upon-Trent, where I remained long enough to be considered a very capital Latin and Greek scholar for my years; and I was often selected by the master to show what proficiency his boys had attained. At the same time, I frankly own to you that I know very little about the matter now. At the age of twelve years I was removed to a school at Greenwich, kept by a Mr. Swinton, and where I was to have remained until fitted for college, being destined for the law. This favorite plan of my father's was, however, frustrated by his own coachman, whose name I have now forgotten. I only remember that I gained his confidence, always sitting by his side on the coach-box when we drove out. He often asked what profession I intended to choose. I told him I was to be a lawyer. "Oh, don't be a lawyer, Master Jackey," said the old man; "all lawyers are rogues!"

'About this time Strachan (father of the late Admiral Sir Richard Strachan) came to the same school, and we became great friends. He told me such stories of the happiness of a sea life, into which he had lately been initiated, that he easily persuaded me to quit the school and go with him. We set out accordingly, and concealed ourselves on board of a ship at Woolwich. My father was at that time absent on the Northern Circuit. My mother and sisters were in a state of distraction at learning our absence from school, fearing that some disaster had happened to us. But after keeping them three days in the utmost anxiety, and suffering ourselves much privation and misery, we thought it best to return home. I went in at night, and made myself known to my sisters, who remonstrated with me rather warmly on the impropriety of my conduct, and assured me that Mr. Swinton would chastise me severely for it; to which I replied that he certainly would not, for that I did not intend to go to school any more, and that I was resolved to be a sailor.

'The next day my mother spoke to me on the subject; and I still repeated that I would be a sailor. This threw her into much perplexity; and, in the absence of her husband, she made known her grief, in a flood of tears, to Lady Archibald Hamilton, mother of the late Sir William Hamilton, and wife of the governor of Greenwich Hospital. Her ladyship said she did not see the matter in the same light as my mother did; that she thought the sea a very honorable and a very good profession, and said she would undertake to procure me a situation in some ship of war.

'In the mean time my mother sent for her brother, Mr. John Parker, who, on being made acquainted with my determination, expostulated with me, but to no purpose. I was resolved I would not be a lawyer, and that I would be a sailor. Shortly afterwards, Lady A. Hamilton introduced me to Lady Burlington, and she to Commodore Townshend, who was at that time going out in the Gloucester, as Commander-in-chief, to Jamaica. She requested that he would take me on his quarter-deck, to which the commodore readily consented; and I was forthwith to be prepared for a sea life.

'My equipment was rather what would now be called grotesque. My coat was made for me to grow up to; it reached down to my heels, and was fully large in the sleeves. I had a dirk and a gold-laced hat; and in this costume my uncle caused me to be introduced to my patroness, Lady Burlington. Here I acquitted myself but badly. I lagged behind my uncle, and held by the skirt of his coat. Her ladyship, however, insisted on my coming forward, shook hands with me, and told me I had chosen a very honorable profession. She then gave Mr. Parker a note to Commodore Townshend, desiring that we should call on him early the next morning. This we did; and, after waiting some time, the commodore made his appearance in his nightcap and slippers, and in a very rough and uncouth voice asked me, how soon I would be ready to join my ship? I replied, "Directly." "Then you may go to-morrow morning," said he, "and I will give you a letter to the first lieutenant."'

Captain Brenton here interrupts the narrative by informing us, that the manner and circumstances of young Jervis's introduction to the first lieutenant are too gross to be described; that, in point of immorality and vice, it equalled or outdid any thing described in Roderick Random.

'This was in the year 1748. As soon as the ship was ready for sea, we proceeded to Jamaica; and, as I was always fond of active life, I volunteered to go into small vessels, and saw a good deal of what was going on.

'My father had a very large family, with limited means. He gave me twenty pounds at starting, and that was all he ever gave me. After I had been a considerable time at the station, I drew for twenty more, but the bill came back protested. I was mortified at this rebuke, and made a promise, which I have ever kept, that I would never draw another bill without a certainty of its being paid. I immediately changed my mode of living, quitted my mess, lived alone, and took up the ship's allowance, which I found quite sufficient; washed and mended my own clothes; made a pair of trowsers out of the ticking of my bed; and having by these means saved as much money as would redeem my honor, I took up my bill; and from that time to this [and he said this with great energy] I have taken care to keep within my means.'—(*Brenton*, vol. i. pp. 19, 20.)

Mr. Tucker's statement does not materially differ from this, but it wants the freshness of the original. However limited the means may have been of Mr. Swynfen Jervis with his double offices, or whatever his intention in subjecting his son to pecuniary distress and mortified feelings, it took with the latter the right turn;—kindled in his breast a lofty spirit of independence, which never afterwards was quenched; it first taught him to rely upon himself, and how securely, though not without a sacrifice, he might do so; it originated in him that confidence in his own resources, which, in the constantly occurring transactions of his eventful life, was one of his chief superiorities over the run of mankind.

It was, however, a dangerous, and to many a youth would have proved a fatal, experiment, though it succeeded with young Jervis. But it succeeded, not so much from the wisdom of the parent, as from the natural and determined character of the boy. It was that innate and inherent character, more than the difficulties he had to encounter on his first entrance into the service, that made him what he afterwards became; for we are by no means sure that a young man, entering the service under wholly different circumstances—to whom his friends allow some £50 or £60 a-year for his mess, in order to enable him to live like a gentleman among his colleagues—would not turn out as distinguished an officer as one doomed to share the poverty of Jervis, to sell his own bedding, and to sleep on the bare deck.

At an early period after his joining the Gloucester and arriving on the West Indian station, finding he had no means of partaking in the mess of his colleagues in that ship on account of the expenses, he prevailed on the captain to transfer him into one of the small cruisers, where he could adapt his scanty means to his absolute necessities; and, being utterly unable to indulge in expenses on shore, he was always ready to volunteer for such small craft as were proceeding to sea. The dishonored bill being the greatest weight upon his mind, he resolved to submit to the endurance of pinching privation, in order to relieve himself from the burden. In one of these cruisers it happened that, in the cable tier, was an old quarter-master named Drysdale, who had been mate of a merchant vessel: this old seaman afforded the midshipman the only assistance he ever received, towards the perfect acquirement, which he afterwards attained, of navigation.

Thus did this youth contrive to rub on, for six years, till the autumn of 1754, when he had nearly served his time as midshipman, and then returned in the Sphinx to England; was transferred to the William and Mary yacht, and there completed the few months required to make him eligible for a lieutenant's commission. This he received in the early part of January 1755, and joined the Prince, of ninety guns, intended for the flag of Lord Anson. She was commanded by Captain Saunders, 'the pattern of steady bravery combined with the most unaffected modesty.' In February he was transferred, as the junior lieutenant, to the Royal George, and the following month to the Nottingham, one of the fleet under Admiral Boscawen.

When Sir Edward Hawke was sent out to the Mediterranean to repair the misfortunes connected with Admiral Byng's command, Captain Saunders was promoted to the flag, and appointed second in command; and it speaks volumes in favor of Jervis, that his short acquaintance had impressed that excellent officer with so good an opinion, that, unsolicited, he was selected as one of his followers. He placed him in the Dorchester, whence he was soon afterwards removed to the Prince, in which the Admiral's flag was then flying; and when in 1757 it was shifted to the Culloden, he took Mr. Jervis with him as his second lieutenant.

The illness of Strachan, who commanded a small sloop, the Experiment, placed Lieutenant Jervis, for the first time, in the command of a ship; and being sent out on a cruise, he fell in with and engaged the French privateer Xebeque, much superior in force and sailing. In a running fight, which lasted above two hours, the Experiment had a midshipman killed and several of the crew wounded; the sloop was much damaged in her hull and rigging, and her main-mast shot through. The Xebeque made off; but her speed was so superior that the pursuit was soon decided to be hopeless.

The expedition against Canada being decided on, and the renowned Wolfe appointed to the command of the military forces, Admiral, now Sir Charles Saunders, who was recalled from the Mediterranean for the express purpose of taking the command of the fleet to be employed on this expedition, again hoisted his flag in the Prince, and selected Mr. Jervis to be his first lieutenant. The military Commander-in-chief, and his aide-de-camp, Captain (afterwards Colonel) Barré, were among Sir Charles Saunders's guests. Wolfe and Jervis had been at school together, 'when the generous acquaintance of youthful hours' had been formed, now in a maturer age to be renewed;* and such was the confidence the soldier here placed in the sailor, that, 'when on the eve of battle, that gallant young hero sought for a friend to whom he might unbosom the fondest secret of his heart, Jervis was the chosen depositary.'

By the time the forces had arrived at the mouth of the St. Lawrence, Sir Charles had appointed Jervis to command the Porcupine sloop, with which, by his alertness on all occasions, he was judged to be of material service to the army. The Porcupine was ordered to lead, and the General was embarked in the leading ship. When under the guns of Quebec, it fell a dead calm. The stream of the river set the Porcupine rapidly towards the flats, and within the reach of the guns of Fort Louis, from whence she was cannonaded. But, by the judicious exertions of Jervis and his crew, she was towed off, and the fleet conducted to a landing-place; and here Commander Jervis's participation ceased.

The exploits and the result of this expedition are matters of history, in which the name of Wolfe is emblazoned in imperishable characters.

'In England,' says Lord Orford, 'the people despaired, they triumphed, they wept, for Wolfe had fallen in the hour of victory; joy, grief, curiosity, astonishment, were painted in every countenance; the more they inquired, the higher their admiration rose; not an incident but was heroic and affecting.'—'Still, however,' says Mr. Tucker, 'does one incident remain, which, it is believed, is not generally known, and which, as Commander Jervis participated in it, should be related. On the night previous to the battle, after all the orders for the assault were given, Wolfe requested a private interview with his friend; at which, saying he had the strongest presentiment that he should be killed in the fight of to-morrow, but he was sure he should die on the field of glory, Wolfe unbuttoned his waistcoat, and taking from his bosom the miniature of a young lady with whose heart his own "blended," he delivered it to Commander Jervis, entreating that, if the foreboding came to pass, he would himself return it to her on his arrival in England. Wolfe's presages were too completely fulfilled, and Commander Jervis had the most painful duty of delivering the pledge to Miss Lowther.'

In 1769 he was appointed to the Alarm frigate, and sent to the Mediterranean. When at Genoa, (not at Tunis, as Captain Brenton says,) two African slaves, sauntering in their galley near the mole, jumped into the Alarm's boat, enfolded themselves in the British colors, and shouted out, 'We are free!' The Genoese officer, hearing this, caused them to be taken forcibly from their place of refuge, one of the slaves carrying away with him the piece of the flag torn off. This being reported to Captain Jervis, he at once decided it was an insult to the British flag; and 'accordingly,' he says, 'I demanded of both the Doge and Senate that both the slaves should be brought on board the Alarm, with the part of the torn color which the slave carried off with him, the officer of the guard punished, and an apology made on the quarterdeck of the Alarm, under the king's colors, for the outrage offered to the British nation;' and he carried every point of his demand. Mr. Tucker, rather unnecessarily, here introduces Jervis's opinions in after life as decidedly averse from the abolition of negro slavery; and we notice this the rather because we think Captain Brenton has been led into a mistake. He says that Sir George Naylor waited on Lord St. Vincent for some historical anecdotes to grace the

* Is not this doubtful? Wolfe was born in 1726, Jervis in 1734, making a difference of eight years in their ages.

history of his peerage; that his lordship expressed his dissent, being utterly averse from such nonsense and vanity; but that, after a short silence, he said, 'Yes, there is one anecdote which I will give you, and one at which I am more proud than of any other event of my life;'—and he tells the story of the two slaves. This is not exactly what we should expect from one, who was not only indifferent, but invariably hostile, to slave emancipation; and we think, moreover, that some little 'vanity' *was* displayed (but could any one blame it?) in the emblazonment of his arms with an historical anecdote that no one can mistake;—his supporters bearing the Thunderer's eagle and the winged horse of Helicon, in direct allusion to the capture of the Pegase by the Foudroyant.

After a severe storm, and the shipwreck of the Alarm, at Marseilles, it required the most extraordinary exertions, together with the valuable assistance of M. Pleville de Peltier, the port officer, to make her again seaworthy; after which Jervis, by his representations to the Admiralty, had the gratification of presenting to M. de Peltier a valuable piece of plate. A few months after the accident, he writes to his sister—'The Alarm is the completest thing I ever saw on the water:'—having previously described her as 'a miserable sunken wreck.'

He also wrote to his father on this occasion; but nothing appears in reply either then or thereafter. 'I have the happiness to inform my dearest father that my prospects brighten, and I hope to be at sea in a month. I have had a severe lesson of submission to the Divine will, gained some experience, and, I have the vanity to think, lost no reputation, although other loss I have sustained enough; but that is not to be named.'

His Royal Highness Prince William Henry, Duke of Gloucester, being in a weak state of health, it was the King's pleasure that a winter's sojourn in Italy should take place, and that a frigate should convey him from port to port—and the Alarm was ordered on that service. On this occasion Jervis proved, in one respect, that as the boy had been, so was the man. Alive to the advantages of visiting the several courts of Italy under such favorable auspices, and in the society in which he was compelled, as it were, to move, he thus informs his friends how he supported himself: 'Throughout such an expensive employ, by great economy my own pocket supported myself, and maintained my independence, though it was *hard work;* but I could not afford to purchase any thing in this land of tempting curiosities and arts.' The Duke quitted in May, with a heart overflowing with thankfulness for the unalloyed pleasure he had received from his trip with Jervis.

The Alarm, after this, went home, was paid off, and Jervis, with his friend Captain Barrington, the former having first for some time studied the French language, set off on a tour of inspection of the European naval arsenals—chiefly those of France. They then proceeded to St. Petersburg by the Baltic; and Jervis gives a concise and spirited account of the Empress Catharine, and the noted characters who were then found in the Russian capital. Stockholm, Carlscrona, Copenhagen, and the harbors of Norway, were also visited; as were Hamburg, Lubeck, and the ports of Holland, together with the northern ports of France; and in the autumn of the second year of their travels, they returned to Plymouth.

Soon after his arrival, Jervis was appointed to the Foudroyant, the finest two-deck ship in the British navy. She was annexed to the Channel fleet under Admiral Keppel, and was stationed immediately astern of the Commander-in-chief's ship, the Victory. In our review of the Life of Keppel, by the Hon. and Rev. Augustus Keppel, we adverted to the straightforward evidence of Captain Jervis on the court-martial called for by Palliser against Keppel. Mr. Tucker has reprinted, at full length, the evidence of Jervis, which occupied two days, and which consists of ninety-one questions and cross-questions, with the answers. All of these were clear, concise, decided, and consistent; and that evidence alone left not a doubt as to the conduct of Keppel.

In 1779 the Foudroyant was still attached to the Channel fleet, then under the command of Sir Charles Hardy, who made so dignified a retreat before the immensely superior Spanish and French fleets, that Lord Howe and his Board of Admiralty expressed their high 'approbation' of the Admiral's wise and prudent conduct.

It would appear, however, that Jervis considered it in a different light. Writing to his sister he says—'I am in the most humbled state of mind I ever experienced, from the retreat we have made before the

combined fleets all yesterday and this morning.' Fortune, however, ere long cheered him up. In 1782, his friend Admiral Barrington was sent to sea with twelve sail of the line, and one of them was the Foudroyant. The Brest fleet came out; the signal was made for a general chase, and the Foudroyant, being the best sailer, soon walked by the fleet, and, towards the evening, saw the French, six ships of war, and eighteen sail of convoy. About ten P. M., Jervis, observing they were separating, and selecting the largest for pursuit, ordered Bowen, a favorite midshipman, to the forecastle, to keep sight of her by his night-glass. In the mean time every thing was made ready for action; and to the repeated questions to young Bowen, if he saw the chase? the reply being always in the affirmative, Jervis was so delighted with the boy's attention, that at last he called out, 'That's right, Bowen; do you only keep sight of her, and rely upon it I will never lose sight of you.—A promise most faithfully kept.* Young Bowen, now seeing a close action at hand, took his station, as aide-de-camp, by the side of his captain on the quarter deck. The Foudroyant, running at the rate of eleven miles an hour, was speedily within hail of the adversary, when the officer on the forecastle called out—'She has put her helm up to rake us, sir.' When Jervis was on the point of putting the Foudroyant's helm a-starboard, in order to give her a broadside from her starboard guns, young Bowen was so forcibly struck with the advantage that might be taken by a contrary proceeding, that he could not help exclaiming—'Then, if we put our helm to port we shall rake *her*.' Jervis, instantly feeling the force of the observation, in his turn exclaimed, 'You are right, Bowen—helm a-port!' Passing close under the enemy's stern, the Foudroyant poured in, and continued for some time, a raking fire. The enemy being thrown into confusion, her sails in the greatest disorder, Jervis determined on boarding, and laid the Foudroyant on the enemy's larboard side. Headed by young Bowen, the boarders were soon in possession of the enemy's deck, struck her colors with cheers, and thus in about three quarters of an hour the action ceased.

The prize was the Pegase of seventy-four guns, commanded by Le Chevalier Cillart, who by the fortune of war became a prisoner to an old acquaintance, to whom, of course, Jervis was delighted to pay the most marked attention; giving positive injunctions that every article of furniture, clothing, books, and papers, belonging to the captain and the officers, should be carefully collected and brought on board the Foudroyant. Captain Brenton tells a very different story, which he says he had from Sir John Jervis himself. The French captain showed him a letter he had written to the minister of marine, giving an account of his capture, and he asked Jervis his opinion of it. 'I read it,' said the latter, 'and returned it to him, saying I had but one objection, namely, that not one word of it was true—"Mais comment pas vrai?" No, sir, not one word of it is true; but you can send it if you please. He did send it, sir, and, when he was tried for the loss of his ship, the letter was produced; he was dismissed the service, and his sword broken over his head.' Sir John Jervis, we venture to say, never would use so insulting and brutal a phrase to any one, much less to a friend in misfortune, his prisoner and his guest. The loss of life, and the damage to the masts and yards, were great in the Pegase; in the Foudroyant not a man was killed, and only five wounded—of whom Jervis was one, being struck between the eyes, both of which were blackened. Admiral Barrington, in a private letter to Mr. Rose, after due praise of Jervis, says—'He, poor fellow, has got an honorable mark above his eye, which I conceive will be of no bad consequence, rather the reverse; for, as a man of middle age, it may make his fortune. The fair honor the brave, and, as we suppose delight in kissing the honorable mark.' In submitting to the King what reward should be conferred on Jervis, his Majesty at once said to Lord Keppel—'Let him be made Knight Commander of the Bath;' but no baronetcy, as Mr. Tucker has stated.

In 1782, the Foudroyant was attached to the fleet under Lord Howe for the relief of Gibraltar, where Sir John Jervis got great credit for the able manner in which he conducted safely into port the fleet of

* At the close of the year, at the relief of Gibraltar, he appointed Bowen acting lieutenant of the Foudroyant, and he was confirmed to the Prince in 1790. In 1792, following his patron to the West Indies, he obtained the rank of commander, then of post-captain into the Terpsichore, in which ship he so often and brilliantly distinguished himself; and while captain of her at Teneriffe, he there gallantly fell.

victuallers and powder ships, in the face of the Spanish fleet, and amid the acclamations of the garrison. On the passage out to Gibraltar, Lord Howe one day assembled the flag-officers and captains, to know their opinions with regard to the prudence, or otherwise, of an inferior fleet engaging a superior one by night. Jervis was the only captain who decided against it, assigning various reasons for giving preference to a battle by day; in which he was supported by Admiral Barrington, who observed, 'that he could not contemplate that any ship would be found wanting in the day of battle; yet, should there unfortunately be a shy cock among them, daylight would expose him.'*

On her return from Gibraltar, at the close of 1782, the Foudroyant was paid off, after being eight years in commission: a more perfect man-of-war, or a more beautiful model, the British navy had then never seen—superior alike for her sailing and fighting qualities. Yet when in the French service, this fine ship, of 84 guns and 800 men, was captured by the Monmouth, a small 64, after an action of four hours, in which Captain Gardiner was first wounded in the arm, then shot dead by a ball striking his forehead; but the action was nobly continued by the first lieutenant, Carket. The enemy had 100 men killed and 90 wounded; the Monmouth, 28 killed and 79 wounded. Splendid as the Foudroyant was, we believe that no model or lines of her beautiful figure have been preserved; but one of her name was built at Plymouth, in 1798, by Sir John Henslove.

On a conjoint expedition projected by the Government against the Spanish West Indies, Sir John Jervis accepted a command, on the principle that he never solicited or refused any particular service, and his broad pendant was hoisted in the Salisbury; but on the armed neutrality being settled, the project was abandoned, and Sir John struck his broad pendant, and remained on shore about six or seven years. A person, however, of such an active mind was not likely to continue idle; and, on the general election of 1784, he was returned for N. Yarmouth. In politics he was a decided Whig; but, as Mr. Tucker says, he should be called 'a Whig Royalist; for although upon all other constitutional questions the strong inclination of his opinion was toward the liberal side, yet, of the necessary and lawful prerogatives of the crown, and of its consequence and grandeur, he was at all times the eager defender.' His name is to be found in all the great struggles of the Whigs for liberty, and at all their meetings in favor of religious Toleration and of Parliamentary Reform.

In 1787 Sir John Jervis was promoted to the rank of Rear-Admiral; and in 1790, when the Nootka Sound quarrel occurred, he hoisted his flag in the Prince, of 98 guns, under Lord Howe, and was placed in command of a division of the fleet. Spain having applied to the National Assembly of France for assistance, the latter, as usual, ever ready to show her hatred of England, assembled a fleet at Brest; but licentiousness and insubordination having usurped the place of discipline, the inevitable consequence, mutiny, followed; officers were appointed and removed at the pleasure of the crews; and nothing was, or could be, attempted by such a disorganized fleet. A convention was made by England with Spain, hostilities were avoided, the fleet paid off, and each flag-officer was indulged with the remuneration of a midshipman for promotion. The quarter-deck of the Prince was full of young gentlemen of the first families in the kingdom. Many were the candidates, and overpowering the interest made, for the highly connected aspirants; but when the day came for nomination, surprise and disappointment arrived with it. The unsolicited recommendation of Sir John Jervis was in favor of a friendless, retiring, but well-behaved son of an old and poor, but well-conducted, lieutenant. In answer to the youth's overflowings of gratitude and astonishment at his good fortune, Sir John said—'Sir, I named you for the lieutenant I was allowed to promote, because you had merited the good opinion of your superiors, and that you were the son of an old officer and worthy man in no great affluence. A steady perseverance in that conduct which has now caused you to be thus distinguished, is the most likely means to carry you forward in your profession; for I trust that other officers of my rank will observe the maxim that I do—to prefer the son of a brother officer, *when deserving*, before any other.'

That Sir John's correspondence was well suited to its subject, the following, forming

* Sir John Barrow gives this anecdote in his life of Howe, as he tells us, on living authority.

a striking contrast with the preceding, will furnish an example:—'I enclose ——'s letter as a testimony of his effrontery; no consideration will ever induce me to countenance any officer who slights the good opinion of his captain, or presumes to attempt to pay me a compliment at the expense of him.'

In 1793, the Government decided on a joint expedition against the French West India islands, when Sir John Jervis was selected to command the naval part, and Sir Charles Grey the troops. A combined expedition is not always a cordial or a successful one; but in the present instance a good feeling and harmony prevailed, not only between the respective commanders, but on every occasion between the soldiers and sailors—each vying with the others which should outdo their fellow warriors in the same cause. In no instance was there the slightest misunderstanding between the Commanders-in-chief; it is on record that neither of them had occasion even to write a single letter on service to the other, during the whole campaign. The result was, that although the French were well prepared, and fought desperately, every island fell in succession into our hands; so that, in a campaign of scarcely more than three months, when all the main objects of the expedition had been accomplished, Sir John Jervis was enabled to inform the Admiralty, 'that all the French islands in those seas were reduced.'

There was, however, a single instance, and but one, of foolish feeling, originating probably in weakness of intellect, but explained into a misunderstanding, on the part of a general officer. The following order was given out by General Prescott:—'Whereas Vice-Admiral Sir John Jervis has given orders frequently on shore here, and particularly in a note dated Boyne, June 11th, which must have arisen either from great ignorance, or great presumption and arrogance—if from ignorance, poor man, he is to be pitied; but if from great presumption and arrogance, to be checked. It is therefore Lieutenant-General Prescott's orders, that in future no attention is to be given to such notes or orders, and his signature to be as little regarded as those of John Nokes and Peter Styles.' The cause of this peevish and foolish order was owing to the Admiral having seen a few soldiers in a state of intoxication, and *requested* the officer on guard to hand them over to his boat, to be sent on board, which the officer reported he had been *commanded* to do. We can well imagine the fierce look from the all-piercing eye which Sir John cast on first sight of this impudent order; and with what ineffable scorn he treated 'the ignorance, the presumption, and the arrogance' of the silly writer. It appears, however, that the general soon recovered his senses, as he says in the Gazette—'I cannot help acknowledging the great obligations I lie under to Sir John Jervis, for the many and essential services which he rendered me and my garrison while he continued in the command, and which were always offered with the utmost alacrity, and performed with equal diligence.'

To recount the operations of the besieging forces is beyond the scope of this article; but we cannot withhold a few words on the eminently gallant conduct of Commander Faulknor, of the Zebra, before Fort Bourbon. The Zebra, with bamboo scaling ladders triced up to the shrouds, was ordered to lead in; made sail straight to the fort; laid his little sloop as close under the guns as the water allowed, to within fifteen feet of the wall; and Faulknor headed his boarders over the parapet into the fort. On the covered way a whole regiment waited their approach; a tremendous discharge of musketry thinned the ranks of the seamen; but the enemy was charged so fiercely that nothing could withstand it, and the whole regiment laid down their arms. Faulknor forced his way through the iron gates, gained the summit of the citadel, and struck the French and hoisted the English colors, amidst shouts of triumph from the armed boats, from the squadron, and from the army on the outside. 'No language of mine,' says the Commander-in-chief, 'can express the merit of Captain Faulknor upon the occasion; but as every officer and man in the army and squadron bears testimony to it, this incomparable achievement cannot fail of being recorded in history.'

On a signal being made for the Commander of the Zebra, Sir John ordered the Boyne's hands to be turned up, and placing himself at the head of his officers, he thus greeted the hero—'Captain Faulknor, by your daring courage this day, a French frigate has fallen into our hands. I have ordered her to be taken into our service, and here is your commission to command her, in which I have named her, after yourself, sir, the Undaunted.'

But this brave officer did not long sur-

vive this honorable testimony of his gallant conduct. In the following year, when he commanded the Blanche, he fought a desperate battle with the French frigate La Pique, of 38 guns, in which he fell, while he himself was in the very act of *lashing the bowsprit of the enemy to the capstan of his own ship!* which it was said he hinted beforehand his intention of doing. The action continued for five hours, when La Pique called out she had struck. The boats of the Blanche being all stove in, Sir David Milne, the present Commander-in-chief at Plymouth, then her second lieutenant, with a few men, swam on board and took possession of the prize. She had about 76 men killed and 110 wounded. The Blanche lost her captain, and had 2 killed and 21 wounded. Such is, and ever has been, the triumphant result of English courage, coolness, and superior seamanship.

But, alas! for the mutability of human affairs, and the wonderful changes effected by human invention! A boiler of water, converted into steam, impels a ship through the sea with a greater and more constant velocity than the winds can do; and the ship so impelled requires few or no seamen. She is navigated by engineers, gunners, blacksmiths, and coal-stokers, who usurp the place of seamen. What then is to become of our brave sailors? and what is to become of our superiority of seamanship, of the glorious result of which we have just given so splendid an instance? It may be said, we too can steam *equally* with others; true—but the naval superiority of England, which has been asserted and maintained for the last three hundred years, admits not of *equality*. Let us but imagine, what may well happen, one of our three-deckers becalmed, and a steamer with those long guns which throw heavy shot or shells to the distance of three miles, taking up or shifting her position as best suits her, while the other thrice-powerful ship is compelled to remain immovable, and must submit to be 'pestered by a popinjay,' and stung, as it were, by a smoking musquito, which, like that animal, can neither be hit, nor caught, nor crushed. The only resource we have, and it is the imperative duty of the authorities to apply it, is to supply every ship of the line and frigate, with as many of these long guns as each can conveniently be armed with.

Though Sir John Jervis was by nature, and from circumstances, frequently blunt in his manner, and not over polished in his language, yet he would, with the greatest good-humor and tact, convey a censure or reproof with the desired effect. For instance, Commodore Thompson being frequently careless in his dress, was one day in his boat clad in a purser's duck frock and a common straw hat, and passing near the stern of the flag-ship, was recognized by the Admiral, who hailed the boat—'In the barge there! go and assist in towing that transport.' The Commodore received the gentle rebuke as his chief intended it: standing up in his boat, and taking off his hat, he answered the hail in proper style, 'Ay, ay, sir!' and proceeded to execute the order.

It was generally supposed that Sir John Jervis had brought home enormous wealth from the West Indies, but he declared in print that it was a very great mistake; for he says, 'my expenses in entertaining the whole staff of the army on the passage out, and in going from island to island, exceeded my gains.' Then the Boyne, while his flag was still flying, caught fire at Spithead, was entirely consumed, and every thing in her belonging to him destroyed.

The admiral was not long permitted to remain on shore. Near the close of the same year (1795) he was sent for by Lord Spencer, and informed by him that his name had been submitted to and approved by the King, to command the Mediterranean fleet; which he at once accepted, and prepared forthwith to set out. On his arrival at Corsica he hoisted his flag in the Victory. His fleet consisted of 2 ships of 100 guns; 5 of 98; 2 of 80; 14 of 74; 2 of 64; 24 frigates; 20 sloops, and other smaller vessels. Under his command were three Vice-Admirals and one Rear-Admiral; and here, for the first time, Sir John Jervis made the acquaintance of Hallowell, Troubridge, Collingwood, Hood, Nelson, and Cockburn—names very soon prominently brought forward under his auspices, and destined to hold the most distinguished rank and to attain the highest honors in the British Navy. One only of these memorable seamen survives—Admiral Sir George Cockburn; and long may he survive for the benefit of his country!

The blockade of Toulon was immediately decided on. A detached squadron from the blockading fleet was placed under the orders of Captain (then made Commodore) Nelson, of the Agamemnon, for the purpose of cruising along the coast to support the

Allies; and seven sail of the line were left before Cadiz under the command of Rear-Admiral Mann.

Excepting the in-shore squadron, in which were Troubridge, Hood, and Hallowell, who were constantly engaged with the batteries, no occasion offered for the fleet to come into action with the enemy; but it required all the attention and the vigorous exertions of the Commander-in-chief, to obtain supplies of provisions and water, and other necessaries for so large a fleet, after the scandalous defection of Corsica—to economize the reduced state of the stores—to keep up discipline, as well in the officers as in the men, by the exercise of the great guns—by desiring the captains to be on deck when a signal was made to tack or wear by night—and by a due regard to all the evolutions of the fleet. A general memorandum says—'The Commander-in-chief has too exalted an opinion of the respective captains of the squadron to doubt their being upon deck when the signal is made to tack or wear in the night.'

The progress of the French army in Italy made it probable that their fleet would attempt to enter the Mediterranean; and in this view the Commander-in-chief sent an order to Admiral Mann forthwith to join him—a similar order, it afterwards appeared, having gone to him from the Admiralty. The receipt of the former he acknowledged; but, instead of obeying his orders, he thought fit to proceed to Spithead. The Admiralty told him they felt the greatest regret at his proceedings, and that orders would be forthwith sent to him to 'strike his flag and come on shore;' yet the same Board of Admiralty appointed him one of its members not long after!

In October 1796, Sir John Jervis received information from Sir Gilbert Elliot, the Viceroy of Corsica, that the government was wrested from him, and that the island must be evacuated. The Admiral writes with great indignation to Lord Spencer. 'The Viceroy,' he says, 'had many thousand men in pay, as free companies; these, with almost the whole of the Members of Parliament in the interest of the British Government, and other pensioners, were the first to show enmity to us. In short, I do not believe the page of history can produce an instance of such rascally baseness and ingratitude; for the whole island has been enriched by the generosity of our Government.'

The Spanish fleet had left Cadiz and entered the Mediterranean, and the Admiral says, 'had Admiral Mann sailed from Gibraltar when he received my orders, and obeyed them, I have every reason to believe they would have been cut to pieces.'

On the 2d of December he arrived at Gibraltar, and was gratified by receiving an account of his young friend Bowen, now Captain of the Terpsichore, having captured the Spanish frigate Mahoneza. 'Bowen,' said he, 'is of my school.' On the 15th of this month we find him cruizing off Cape St. Vincent. Three days afterwards he received orders to 'proceed immediately to the Tagus.' Here within a week his squadron was refitted, replenished, and ready for sea, and he went out with it forthwith, writing to the Admiralty, 'Inactivity in the Tagus will make cowards of us all.' By the loss of the Bombay Castle, and the grounding of the St. George, the Admiral's fleet was reduced to eight sail of the line. Fortunately, however, on the 6th of February, he was reinforced with six sail of the line under Sir William Parker, and next day the Culloden rejoined him, by whom he learned that the Spanish fleet had passed Cadiz. On the 13th, Commodore Nelson, with his broad pendant in the Minerve, joined him, and shifted his pendant into the Captain. The morning of the 14th of February was foggy, but very soon the Culloden's signal guns announced the enemy. A little after nine six ships of the line were ordered to chase. The Commander-in-chief walked the quarter-deck, while the hostile numbers were duly reported to him as they appeared, by signal. 'There are eight sail of the line, Sir John,'—'Very well, sir.'—'There are twenty sail of the line, Sir John,'—'Very well, sir.'—'There are twenty-five sail of the line,'—'Very well, sir.'—'There are twenty-seven sail, Sir John,' and this was accompanied by some remark on the great disparity of the forces—'Enough, sir, no more of that: the die is cast; and if there were fifty sail I will go through them.' This determined answer so delighted Captain Hallowell, who was walking beside him, that, in the ecstasy of the moment, he could not resist patting the old Admiral's back, exclaiming, 'That's right, Sir John, that's right; by G—d, we shall give them a d—d good licking!'—and so they certainly did.

The glorious battle of St. Vincent is matter of history. Every one knows that it was won by fifteen to twenty-seven; and that four large ships were taken by that portion of the fleet which attacked the

Spanish division separated from the main body. The Captain, the Blenheim, the Excellent, and the Irresistible, under the respective commands of Commodore Nelson, Captains Frederick, Troubridge, Collingwood, and Martin, were the ships that dashed into the midst of them. The Orion, Sir James Saumarez, the Prince George, Vice-Admiral Parker, and the Colossus, Murray, were also in the thickest of the fight. The rest of the fleet were partially engaged in preventing the larger portion of the Spaniards from joining and assisting the division from which the captures were made. Captain Calder, the flag captain, was sent off with the account of the action; but talking over the events of the day, Calder hinted, whether the spontaneous manœuvre that carried Commodore Nelson and Collingwood into the brunt of the battle, was not an unauthorized departure, by the Commodore, from the prescribed mode of attack? 'It certainly was so,' replied the magnanimous Commander; 'and if ever *you* commit such a breach of your orders, I will forgive *you* also.'

Captain Cockburn, (now Sir George,) of the Minerve, towed out the damaged Captain, and carried Nelson in his boat to the flag-ship, when the Admiral received him on the quarterdeck, took him into his arms, and kissed him. Much nonsense was talked about Nelson's name not being mentioned in the public despatch. The treatment Lord Howe received, but three years before, for selecting names contrary to his own wish and intention, but by *command*, was alone sufficient for Sir John to avoid a similar dilemma; but he had three Vice-Admirals, Thompson, Parker, and Waldegrave, one of whom, Parker, in the Prince George, behaved most gallantly. Was he to leave them out, and Nelson to stand alone? In his letter, however, to Lord Spencer of the same date, he makes honorable mention of all who had an opportunity of distinguishing themselves. He thus begins his letter:—'The correct conduct of every officer and man in the squadron on the 14th instant, made it improper to distinguish one more than another in my public letter; because I am confident that, had those who were least in the action been in the situation of the fortunate few, their behavior would not have been less meritorious.'

Votes of thanks were given by the two Houses of Parliament, and by a message from the Crown to the House of Commons, a pension of £3000 a-year was settled on the Admiral; a Peerage was also granted intended at first as that of a Viscount, but afterwards changed to an Earldom. The title he wished to be Orford, as originally belonging to the navy, having been conferred on Admiral Russell after the battle of La Hogue; but the King fixed on that of St. Vincent. The Vice-Admirals, Thompson and Parker, were created Baronets; and Nelson, Knight-Commander of the Bath. The fleet with the prizes proceeded to the Tagus to refit, where, by the end of the month, they were ready and reinforced to twenty-one sail of the line; when, receiving a signal from a frigate off the bar—'The enemy at sea!'—such was the promptitude exhibited, that by daybreak some of the ships reported themselves ready for sea; and at the close of the day the whole squadron, thirteen sail of the line, sailed in pursuit of the enemy.

Enough has been written and said on the subject of the mutiny in the fleet at the Nore and Spithead; but after so glorious a victory off Cape St. Vincent, it could have been little expected that a mutinous spirit would make its appearance in the triumphant fleet before Cadiz. A Portuguese priest, the confessor of the Catholics in the fleet, and in the pay and confidence of Sir Isaac Coffin, showed to that Admiral a letter he had received from two seamen of the Ville de Paris, acquainting him of their intention to assassinate the Commander-in-chief, as soon as the expected resistance should have broken out. In the Ville de Paris too, the villain Bott, the Corresponding Society's delegate on the Cadiz station, confessed, in dying, that the intention was to hang Lord St. Vincent, and transfer the command of the fleet to one Davidson, another delegate, and of couse a rebel.

The first practical outbreak of the mutiny was on the Kingfisher's deck, where Captain Maitland, by a thrust of his sword, slew one of the rebels and wounded some others: he was tried at his own request, and acquitted. And here we cannot forbear noticing a most reprehensible passage in Captain Brenton's work, the improbability of which, acquainted as he was with Lord St. Vincent's character, ought alone to have prevented the insertion of it. He says, 'Lord St. Vincent did not certainly participate in the feeling which dictated the *admonition*, (there was none;)* for I

* The sentence only says, 'that the means taken by Captain Maitland were spirited and successful, but hasty, and not tempered with that

am *credibly informed*, that he invited the members of the court-martial to dinner, and after the cloth was removed gave as a toast, '*Maitland's radical cure.*' Invited the members to insult them! He should have known that Lord St. Vincent was incapable of uttering so brutal a sentiment; nor is it likely he ever invited the members of the Court-martial, in a body, to dine.

But it was on the arrival of Sir Roger Curtis's squadron, and in it, that the crisis of disaffection raged. Applications for Courts-martial on mutineers came from three of his ships, the Marlborough, the Lion, and the Centaur. We shall select only the first, as sufficient to show the Admiral's determination to crush the evil. Lord St. Vincent had been apprised that the Marlborough was among the most disorganized at Spithead; and she was therefore ordered, on her approach, to take her berth in the centre, at a small distance from the rest of the fleet. A mutiny had broken out in her at Bearhaven, and again on her passage out, which was suppressed by the officers, but chiefly by the first lieutenant: the ostensible object of the mutiny was the protection of the life of a seaman, who had forfeited it by a capital crime. A Court-martial was now ordered on the mutineers, and one being sentenced to die, the Commander-in-chief ordered the execution to take place the following morning, 'by the crew of the Marlborough alone; no part of the boat's crews from the other ships, as had been usual on similar occasions, to assist in the punishment.' The Captain of the Marlborough, Ellison, waited on the Commander-in-chief, reminded him that the crew would not suffer capital punishment of a condemned criminal, and expressed his conviction that they would never permit the man to be hung on board that ship. The Captain had been received on the quarterdeck of the Ville de Paris, before the officers and ship's company—all listening in breathless suspense; and Lord St. Vincent having himself listened attentively until he had ceased to speak, after a short pause thus addressed him:—'What! do you mean to tell me, Captain Ellison, that you cannot *command* his Majesty's ship the Marlborough? If that is the case, sir, I will immediately send on board an officer who can.' The Captain requested that, at all events, the boats' crews from the rest of the fleet might, as usual, attend at this, to haul the man up; for he did not expect the Marlborough's would do it. Lord St. Vincent sternly replied—'Captain Ellison, you are an old officer, sir; have served long; suffered severely in the service, and have lost an arm in action; and I should be very sorry that any advantage should be taken of your advanced years. That man *shall be* hanged at eight o'clock to morrow morning *and by his own ship's company;* for not a hand from any other ship in the fleet shall touch the rope. You will now return on board, sir; and, lest you should not prove able to command your ship, an officer will be at hand who can.

Captain Ellison retired, and was followed by an order to cause the ship's guns to be housed and secured, and that at daybreak her ports should be lowered. All launches of the fleet were then ordered to rendezvous under the Prince at seven o'clock the following morning, armed with carronades and twelve rounds of ammunition, each commanded by a lieutenant—the whole under the orders of Captain Campbell, of the Blenheim. On presenting his orders, Lord St. Vincent told him, 'he was to attend the execution, and if any symptoms of mutiny appeared in the Marlborough, any attempt to open her ports, or any resistance to the hanging of the prisoner, he was to proceed close, touching the ship, and to fire into her, and to continue his fire until all mutiny or resistance should cease; and that, should it become absolutely necessary, he should sink the ship in the face of the fleet.'

It is almost unnecessary to add, that at the signal gun the man was hauled up to the yard-arm with a run. 'Thus,' says Mr. Tucker, 'the law was satisfied;' and at the moment, perhaps one of the greatest of his life, Lord St. Vincent said, 'Discipline is preserved, sir.' He might well say so; for this firm determination gave a fatal blow to the mutiny in the fleet before Cadiz, but not a final one, as scarcely a ship arrived from England that was not infected with mutineers, and again and again the dreadful sentence was inflicted—the crews of such ships being invariably the executioners of their own rebels. When the St. George joined from England with some mutineers in irons, a Court-martial sat on Saturday and pronounced sentence, which Lord St. Vincent ordered to be carried into effect the following morning, though it was *Sunday*, for which he was fully aware he

discretion which the serious nature of the case required.

would incur the censure of the sanctimonious; but he was also aware that the instant punishment of death on one man, might be the means of preserving the lives of thousands. 'I hope,' he writes to Lord Spencer—'I hope I shall not be censured by the bench of Bishops, as I have been by Vice-Admiral ———* for profaning the Sabbath.' The criminals asked five days to prepare, in which they would have hatched five hundred treasons. His conduct on this urgent occasion was highly approved by the Board of Admiralty; and Nelson writes to Sir R. Calder, 'I am sorry that you should have to differ with ———, (*Q.* St. Vincent;) but had it been Christmas-day instead of Sunday, I would have executed them—we know not what might have been hatched by a Sunday's grog; *now*, your discipline is safe. I talked to our people, and I hope with good effect: indeed they seem a very quiet set.'

After a few more executions of rebels, imported into the Cadiz fleet from Spithead, the chief of whom were delegates of the Corresponding Society, or United Irishmen, one of them, in the Princess-Royal, pointed out to his colleagues *Cadiz as their future country*. Fortunate was it for England that a man of such perspicacity, and unbending firmness of mind as Lord St. Vincent, was sent to command on this distant station; and that the disaffected ships were placed under his stern orders, to restore them, as he succeeded in doing, to loyalty and discipline. Here, indeed, this great Commander showed that he possessed all the chief mental qualities necessary to greatness, on great emergencies. Others then, as before, showed a courage equally intrepid; but no man that ever held command in the British Navy, ever showed in a higher degree that force of mind, that steadiness of purpose, and that undoubting reliance on native resources, by which alone can great successes, in perilous times, be achieved. It is not too much to say, that a Commander-in-chief with less nerve would have endangered the loss of the whole fleet. Nelson, from a sense of duty to his country, would have pursued similar steps, with all the milk of human kindness in his bosom, and so would Troubridge; but having named them, we pause.

It now (1795) became necessary to watch the French force in Toulon, and superintend their proceedings in the Mediterranean. In Lord St. Vincent's fleet before Cadiz were three subordinate flag officers, of whom Nelson was the junior; and by a simultaneous coincidence of opinion (not at all surprising) between Lord St. Vincent and Lord Spencer, they severally decided that it was a duty owing to the country to place this important command under 'her choicest though younger son.' Lord St. Vincent was fully aware that he would incur 'a world of enmity, vexation, and annoyance' by this selection. Among the most disappointed and intemperate was Sir John Orde, who wrote an accusatory and fretful letter to Lord Spencer, and sent a copy of it to Lord St. Vincent; to which his Lordship thus replied:—'The letter you have done me the honor to communicate, expresses precisely what I should have done under similar circumstances, for I never was blessed with *prudence* and *forbearance*. At the same time, it must be acknowledged that those who are responsible for measures, have an undoubted right to appoint the men they prefer to carry them into execution.' Seeing the necessity of getting rid of so troublesome an officer as Sir John Orde, he took occasion to send him home in the Blenheim, with the following short note:—'I have to acknowledge the receipt of your letter, dated off Cadiz, 3d August, expressed in terms of insubordination, that even in these times I did not expect to receive from an officer of your rank.' On Sir John's arrival in England, he applied for a Court-martial on the Commander-in-chief, which was of course refused; but some time afterwards, when Lord St. Vincent returned to England, he received a challenge from Sir John, which his Majesty laid his commands upon him not to accept; and here the affair ended.

The Mediterranean having now become the scene of active operations, Lord St. Vincent proceeded to Gibraltar, from whence he could not only more conveniently carry on the correspondence, but also make arrangements for repairing the defects of the Mediterranean squadron, of which he anticipated a speedy occasion. The splendid victory of the Nile, the operations against Minorca, and other minor affairs, were the objects he contemplated, and which very soon called for assistance. The actions of Nelson belong to himself, and have been recorded in the annals of the British Navy; but they belong not immediately to the life of Lord St. Vincent. On his hearing the

* *Calder*, as would appear by the following letter.

result of the battle of the Nile, he wrote to Nelson,—'God be praised! and you and your gallant band rewarded by a grateful country, for the greatest achievement the history of the world can produce!'

Despatches were shortly received that Minorca was taken without the loss of a single man; and Sir James Saumarez, having arrived with the disabled ships and prizes taken at the battle of the Nile, the indefatigable Admiral, defying the accumulation of arrears, set about the immediate repair of the ships, attending in person the whole day, though up generally till two in the morning reading and writing his letters. The prizes were patched up for Lisbon, but he announced his determination that the battered ships of his fleet should be made sea-worthy at Gibraltar; and by his unceasing exertions and mental resources, the Nile squadron was repaired without a single ship quitting the station. But the excessive fatigue, both of mind and body, preyed so much upon his health, that the Admiralty, having received notice of his apprehensions 'that he must retire or sink,' sent out Lord Keith with reinforcements to the fleet before Cadiz.

Shortly after this his lordship returned to Cadiz bay; but found himself so ill and worn down as to be obliged to go back to Gibraltar. During his illness, which confined him to his bed, he was informed that a powerful French fleet, twenty-six sail of the line, with frigates, was passing the Rock into the Mediterranean. Invalid as he was, he superintended the equipment in person, hoisted his flag in the Ville de Paris, and the entire fleet was watered, provisioned, stored, and got ready for sea in two days. His illness, however, increasing, he transferred the entire command to Lord Keith, and repaired in the Argo to Gibraltar, and thence to England.

Information had been conveyed to Lord Spencer, that all was not right in the Channel fleet; that the deep-rooted sedition among the crews, so far from being exterminated, afforded but too serious grounds for apprehending another mutiny in that fleet, if speedy and efficient measures were not taken to subdue the insubordination of the men, and correct the laxity of discipline in the officers; that, in short, none but a Commander-in-chief of the highest reputation, of a bold, firm, and decisive character, could hope to succeed in restoring a proper degree of obedience and subordination. Lord St. Vincent was at once looked up to as being that officer; but his health was still in a precarious state. The Admiralty caused frequent inquiries to be made of Dr. Baird, his lordship's confidential medical adviser, who reported his case to be one of doubtful issue. A change of weather, however, produced a fortunate turn; and Baird thought it probable that, as the genial season was advancing, a favorable result might be expected.

Lord St. Vincent was then at Bath. One morning when the doctor paid his customary visit, his lordship said, 'Baird, I am going afloat.' 'Surely, my lord, you are not'—— 'Stop, Baird,' his lordship replied, 'I anticipate all you are going to say; but the King and the Government require it, and the discipline of the British Navy demands it. It is of no consequence to me whether I die afloat or ashore: the die is cast.' He then informed Baird that Lord Spencer had come to him from London for the purpose of requiring his services, and that all was settled. His Secretary was sent for, and in a few days his flag was flying in the Namur at Portsmouth. Sir George Grey was appointed flag captain, and Sir Thomas Troubridge captain of the fleet.

It was a noble fleet that was ready to receive him—his flag in the Ville de Paris, of 110 guns; two of 100 guns; five of 98; two of 90; one of 80; twenty-nine of 74 guns—in all, forty sail. Two Admirals with flags at the main, and four Rear-Admirals. His Lordship, however, was very speedily given to understand, that the proud distinction conferred by the command of such a fleet, was not to be unaccompanied with vexation. Immediately after the general salute to the flag, when the Admirals and Captains repaired to the Ville de Paris to pay their respects to the new Commander-in-chief—at that moment he was apprised by the Admiral next to him in command, of the disaffection he felt at being superseded from a command which he considered his 'birthright, having always served in the Channel fleet.' Lord St. Vincent, out of respect for that Admiral, who was an old acquaintance, took no notice of his ill-timed observation, but contented himself with submitting the circumstance of the encounter to Lord Spencer.

This commencement of a grievance was speedily followed up by an act of indiscretion, which carried with it, untentionally perhaps, its own correction. One of the captains gave as a toast, at the table of the same Admiral, the second in command,

(who, it is said, had the forgetfulness to permit it to be drunk in his presence,) '*May the discipline of the Mediterranean never be introduced into the Channel fleet.*' Lord St. Vincent could not hear of this without its exciting in his mind great surprise and regret. He considered it as a daring attempt to establish a system of insubordination among the principal officers, and to create a feeling of unpopularity in the minds of the inferior officers and men. He saw at once that the emergency had arisen which required something to be done, and done immediately; and he felt that, although his strength was not recovered, he had nerve enough to go through it. 'Lord St. Vincent,' says Mr. Tucker, 'again came forth with the utmost composure, and, before he had even quitted his chair—"Bring me the Mediterranean Order Books, Mr. Tucker;" ' and he then directed that every single order tending to enforce the discipline and general good management of the ships, and every regulation imposing those restrictions which had been productive, in the Mediterranean fleet, of such good effect, should be copied and circulated in the Channel fleet. At the same time, he addressed a courteous but firm circular to all Admirals and Captains, desiring their co-operation. In short, he gave them distinctly to understand, that the stigmatized 'discipline of the Mediterranean' was to be introduced and rigidly enforced in the Channel fleet.

So great had been the relaxation of discipline under the late Commander-in-chief, (Lord Bridport, who was mostly absent in town,) that the officers were constantly on shore—many who had families slept on shore; the men, of course, obtained leave in shoals, and the consequence was, and could not be otherwise, immense desertion—not fewer than seventy or eighty in a single ship. Lord St. Vincent saw that not a moment was to be lost in putting a stop to an evil of such portentous magnitude; and that this could only be done by forbidding the Captains and all the Officers from sleeping on shore. Desertion ceased: and the order, as if by magic, re-manned the ships. But 'to save his fleet, Lord St. Vincent took upon himself,' to use the words of Mr. Tucker, 'frowns afloat and maledictions on shore.' Of the latter he gives an illustration, by relating that one lady, in full coterie, gave as a bumper toast—'May his next glass of wine choke the wretch!' It may be doubted whether the husband of this virago did not find himself more comfortable afloat than at home.

The fleet encountered a tremendous gale. The Ville de Paris having weathered Ushant, scudded, pitched, and rolled most fearfully. An enormous sea struck her, stove in her stern windows, flooding the Admiral's cabin. As the great three-decker was staggering awfully under the blow, our author tells us—'The Commander-in-chief was on the quarterdeck, sitting in the bight of the main-topsail, in which a seat to windward had been formed for him; two quartermasters were stationed beside him, to assist his infirm and aged frame; and from thence he gave his orders to his fleet. When this sea struck the Ville de Paris, it literally deluged the quarterdeck; and, on one of the quartermasters shaking the water out of his neck, "Pooh, pooh, man!" said the old Admiral: "stand still, and do as I do—let it alone—don't you see it will run off you?" '

On returning to the blockade of Brest, means were effectually adopted to keep up a supply of provisions—fresh meat and vegetables—and also of water. The Captains were indignant at being compelled to mount guard at the watering-place, to prevent confusion and desertion; and it was proposed to make a representation on the subject. Lord St. Vincent hearing of this intention, stopped it by intimating to them, that when in command of the Foudroyant he had always taken his turn of this duty; 'and that think or do, write or say, what they might or choose, he was determined that, while he commanded the Channel fleet, his captains should perform their duty.'

Lord St. Vincent was never wanting in expedients to convey a well-timed rebuke to an officer, without passing a direct censure upon him; and at the same time in such a way as to make him feel the rebuke more keenly. A certain Rear-Admiral in command of the in-shore squadron, not much liking his position, occasioned his Commander-in-chief some annoyance by frequent complaints about the shoalness of the water so near to the coast. In order to convince the Rear-Admiral how groundless his remonstrances were, he made use of a practical demonstration, by leading the main body of the fleet considerably within him, sailing round him, and standing out again. Very soon afterwards, the Rear-Admiral was 'advised to go home and recruit his health.'*

* It appears very unnecessary in Mr. Tucker to suppress his name, as every body knows it was

Lord St. Vincent caused it to be understood, that no Captain or Commander in his fleet was to be off the quarterdeck or poop when any movement of the ship was made, night or day; and he generally set them his own example. One dark, cold, blowing November night, with much rain, the Secretary having heard the signal ordered for 'the fleet to tack in succession,' hastened to prevent the Commander-in-chief from going upon deck in such a night, he being unwell. Finding his cot empty, he took up his cloak and ran upon deck. He was not there, and no one had seen him: he had not passed the sentries; the windows were closed; his clothes were on the chair. At last he threw up the galley window and stepped out; and there, sure enough, at the further end of the galley was the old Admiral, in his flannel dressing-gown and cocked hat, watching the movements of his fleet. The Secretary put on his cloak, and entreated him to return into the cabin. 'Hush, sir, hush,' said the Admiral; 'I want to see how the evolution is performed in *such* a night as this, and to know whether Jemmy' (Captain James Vashon, second astern of the flag-ship) 'is on deck.' This was soon certified by Jemmy's shrill voice giving the usual warning—'Are you all ready, forward there?' 'Ay,' said the old chief; '*that* will do;' and then he accompanied the Secretary into the cabin.

Stern disciplinarian as was St. Vincent, and suffering none of his orders and regulations to be disobeyed with impunity, there never was a more considerate, humane, and kind-hearted man, when a deserving object was brought before him. An instance or two may here be mentioned. Mr. Coghlan, in the Viper cutter, captured the Cerbère by a dashing feat of gallantry. Lord St. Vincent, in writing to the Secretary of the Admiralty says—'I did not think the gallantry of Sir Edward Hamilton and Captain Patrick Campbell could have been rivalled, until I read the enclosed letter from Sir Edward Pellew, relating the desperate service performed by acting Lieutenant Coghlan of the Viper cutter, which has filled me with pride and admiration.' . . . 'I am persuaded the Lords Commissioners of the Admiralty will do all in their power to console him under his severe wounds, and make a minute for his promotion the moment he is in a capacity to receive it.' They did so; and this promising officer, in the progress of his service, became Sir Jeremiah Coghlan, a post-captain.

But Lord St. Vincent did not stop here; he thus wrote to Lord Spencer:—

'My Dear Lord,

'I shall not trouble your lordship with a word more than is contained in the enclosed private letter from Sir Edward Pellew, on the subject of the intrepid Coghlan, except to say (not out of ostentation, but to prevent the city, or any body of merchants, making him a present of the same sort) that I gave him a sword of one hundred guineas' value.

'Yours most faithfully,

'St. Vincent.'

Having occasion to shift his flag into the Royal George, his attention was drawn to a remarkably fine boy, who, as he learned from Captain Domett, wrote in the Secretary's office, and was a nephew of Captain Wilmot, who was promoted by his lordship for his gallant conduct when first lieutenant of the Seahorse, and who afterwards nobly fell in the breach at Acre. He called the boy before him, asked whether his present employment was his own choice, or whether he would prefer a more active life? The boy said his own wish was to be a midshipman; but his friends had no influence, nor means to enable him to join a midshipman's mess. The Secretary was instantly sent for. 'Good Heavens, Tucker! here is the nephew of poor David Wilmot, a common boy, and his parents cannot afford to clothe him as a petty officer! Do you *immediately* send into port, and equip him in every respect for the quarterdeck.' No sooner said than done; and when the flag returned to the Ville de Paris, the boy was most agreeably surprised to find himself rated a midshipman, with uniforms and a well stored chest. Mr. Tucker need not have apologized to this gallant officer for saying, that his whole life has been one of high credit to his patron; that he has since behaved so gallantly upon every occasion, as to have promoted himself to the honor and rank of a very distinguished post-captain. The apology should have been for concealing his *name*.

When Lord St. Vincent promoted Captain Hill to the Megæra, the Captain had to pay £50 for necessaries as valued by survey, which he thought were not worth £10. On going on board the flag-ship, the Chief accosted him thus: 'Hill, Bover says you decline taking his necessaries.' 'Yes, my lord, they are valued at £50, and not worth

Rear-Admiral the Honorable G. Berkeley, whose flag was in the Mars.

£10; I must certainly provide a fresh supply.' 'But, poor Bover!' replied his lordship, 'poor Bover! Hill you must take them from him.' He then ordered his Secretary to draw a check for £100, and give it to the Captain to pay for them, whispering in his ear—'Hill, your father and I were such friends that we once shared the same purse;' this was a command admitting of no reply. One day the ship's company were ordered to bathe. On returning to their duty, Lord St. Vincent observed a favorite seaman in tears, surrounded by a group of his comrades. He called his Secretary and said—'There's my delight, Roger Odell, in tears; go, see what's the matter.' It turned out that Roger had jumped off the fore-yard with his trousers on; and had forgotten that all he possessed in the world consisted of bank-notes, in one of the pockets. The water reduced them to a useless pulp. The Admiral went into his cabin, but presently returned, and ordered all hands to be turned up. Odell was summoned, and the Admiral assuming one of his angry looks, thus addressed him, 'Roger Odell, you are convicted, sir, by your own appearance, of tarnishing the British oak with tears! What have you to say?' The poor fellow, overpowered by his distress, could only plead—'That he had lost all he had in the world, that he had been many years saving it, and that he could not help crying a little.' The Admiral, still preserving his look of displeasure, said—'The loss of money, sir, can never be an excuse to a British seamen for tears.' Then softening down his tones, he proceeded—'Roger Odell, you are one of the best men in this ship; in my life I never saw a man behave better in battle than you, in the Victory, did in the action with the Spanish fleet. To show, therefore, that your commander-in-chief will never pass over merit wheresoever he may find it—there is your money, sir,' (giving him £70) —'but no more tears, mind; no more tears.' The poor fellow, holding the notes in his hands, astonished and confused, but becoming sensible of the reality, said, in a hurried manner—'Thank ye, my lord, thank ye!'—and dived down below to conceal a fresh gush of tears of gratitude.

The merits of a commander of a small brig, who, from unavoidable circumstances, had been kept out on a most trying service longer than usual, without starting a difficulty or allowing a murmur to escape him, were not unobserved by Lord St. Vincent; who had been made aware that, with very slender means, he was, by great personal privations, nobly struggling to support a wife and a numerous young family. The brig came in to be repaired, and was found in bad condition. His lordship observed—'If I send him to England now, he'll be paid off, and he has not wherewith to buy a gown for his wife and daughters.' He therefore ordered that, when repaired, the brig should receive a complete refit and be well stored—and, to shorten the story, this worthy officer found in the parcel containing his orders for a cruise, £100, to provide for his private outfit.

On opening one of the letters from London, brought in the cutter, Lord St. Vincent rang his bell violently for Mr. Tucker, who, on entering, was asked whether a good dinner for forty or fifty could be managed for that day. Receiving an answer in the affirmative, he ordered signals for the fleet to lie-to, and to invite all the Admirals and Captains to dine, 'for,' he added, 'the cutter *must* return this evening.' When dinner was ended, he produced the letter, and apologizing for the short notice he had given, said he was anxious to take the earliest opportunity of communicating to them its subject-matter. A Mr. Thomson wrote to inform him that, 'he had an establishment at Paddington for the orphan children of seamen who had fallen in their country's service; that it had hitherto been supported by voluntary contribution, but that the funds being nearly exhausted, he was compelled to solicit his lordship for a little assistance.' He then reminded them that they all owed their honors, their fortunes, and their rank to the devoted gallantry of the brave men whose children were left destitute orphans. That, as he himself had benefited most by these brave fellows, his own contribution ought to be the largest, but not regarded as any example for others, each giving only what he could without inconvenience afford. The youngest, as is the practice in Courts-martial, gave his name for the first contribution; and, when the paper came to Lord St. Vincent, he wrote upon it *one thousand pounds*. After this well-spent evening, every one left the ship in good-humor, pleased with themselves and with the old Commander-in-chief's deportment throughout. The establishment continued to go on under the humane superintendence of Mr. Thomson, till it attracted the attention and support of Government, and became, what it now is, the Naval Asylum.

Such was Lord St. Vincent—a stern and rigorous disciplinarian—but one who, on all occasions, showed that he possessed a most kind and generous disposition—ever ready and anxious to relieve distress, and to promote, to the utmost of his power, a friendless and deserving officer.

To the young Captains he was indulgent, and always ready to offer them advice. In a letter to ——— (Mr. Tucker very provokingly and unnecessarily leaves all the names *blank*) his lordship says—'You are a young man, and rather overhasty in applying for an investigation or trial;' and he admonishes him, that the mere sound of court-martial has the same pestilential effects as a suspicion of female chastity.'

He was not overpleased with some of the Lords of Admiralty. In a letter to Mr. Nepean, he 'desires he will state to Lord Spencer the impossibility of governing a large fleet in times like these, while the subordinate officers are encouraged by patrons of the Admiralty Board, whom I can compare to nothing else but the orators in ancient Rome, who took up the cause of every discontented and factious person who presented himself at the forum.' Again, in writing to the same, he says—'I have no objection to the correspondence of the whole world being conveyed under cover to me, with the exception of that which passes between puisne lords of the Admiralty and subordinates of the fleet under my command.' And he carries his objections into practical effect, by returning a letter to Sir Evan Nepean, saying—'He has forbidden surreptitious correspondence between members of the Board of Admiralty and the officers of the fleet, so derogatory from the discipline and subordination thereof.' This was certainly taking high ground.

In one of his letters he says—'First Lords of the Admiralty, on their entrance into office, resemble princes, are surrounded by flatterers, and seldom learn the true character of their subordinates. I have, to the utmost of my power, endeavored to put Lord Spencer in possession of every knowledge I have of men and things; and I have gone further with him than I ever did with any other man in office.' Little did the noble lord dream, when he penned this sentence, that he was himself on the threshold of that envied station of 'Princes;' but so it was. On the dissolution of Mr. Pitt's Government, Mr. Addington, who succeeded him, communicated to Lord St. Vincent the King's command, that the appointment of the first Lord of the Admiralty should be offered to him—a proposal which his lordship did not hesitate to entertain, having no objection to join the administration of 'all the talents.' What he said to the King, and what the King said to him, Mr. Tucker no doubt found recorded among his father's papers. He told the King, 'that he should make but a bad return for all the honors and favors which his majesty had most graciously bestowed upon him, and very ill discharge his duty, if he did not frankly and honestly tell his majesty, that, having served nearly half a century with the Roman Catholics, and seen them tried in all situations, it was his decided and conscientious opinion, that they were entitled to be placed upon the same footing in every respect as his majesty's Protestant subjects.' And more to this effect, adding—'That having discharged his duty to his majesty and to himself, he would also add, that his life and his utmost services were at his majesty's disposal, and that he was ready to return to the fleet, or to serve his majesty on shore, or to retire into private life, as his majesty might think proper to command.' When he had finished, the King replied—'Lord St. Vincent, you have in this instance, as you have in every other, behaved like an honest, honorable man. Upon the question of Catholic emancipation, my mind is made up, from which I *never*' (with great energy) 'will depart; and, therefore, as it is not likely that it will be a matter agitated or discussed between us, I can see no reason why you should not take the Admiralty, where I very much wish to see you, and to place the navy entirely in your hands.'

Thus was the lofty-minded and uncompromising Whig, for once in his life, thrown amongst a combination of Whigs and Tories. Mr. Grey's motion on the state of the nation, and Mr. Fox's denunciation of the inefficiency of Mr. Addington and his colleagues, must have been rather awkward; but then from the latter was excepted the first Lord of the Admiralty. 'I do not think,' said Fox, 'it would be easy, if possible, to find a man in the whole community better suited, or more capable of the high office he fills, than the distinguished person at the head of the Admiralty—I mean the Earl St. Vincent.' Thus, it appears, that notwithstanding all the handsome things said of him, Lord St. Vincent was early convinced, that 'first Lords of

the Admiralty, on entrance into office, do not exactly resemble princes, nor are they surrounded by flatterers, even among some of their own friends, as he experienced on his first entrance, and also in the sequel.' He soon, in fact, discovered what his new position really was; that it was by no means an easy one, but, on the contrary, one that required greater temper and circumspection, to avoid giving umbrage to the multitude of applicants of all descriptions. Some of the duties and qualifications of first Lords are thus stated by one who has had considerable experience: 'He should possess a sound judgment and great discretion—a patient and placid temper—a courteous deportment and civil demeanor to all—an easy access to officers of every rank—and a ready and obliging acknowledgment of all applications addressed to him in writing; for a kind manner of receiving and replying to them, personally or by letter, goes a great way towards softening the bitter pangs of disappointment, the unavoidable result of a non-compliance with what is requested.'*

How far Lord St. Vincent's demeanor corresponded with this, in his reception of officers, we have no means of knowing; but his letters of refusal are generally expressed in courteous terms, and with much tact. His Board, however, was certainly unpopular in the naval service, both ashore and afloat; more so, it would appear, from the temper of the two professional lords, (the other three being ciphers,) than from any conduct of his own. With Sir Thomas Troubridge he had no acquaintance but what was gained from their professional intercourse in the Mediterranean; but he very soon proved his eminent qualities, and the beautiful description he gave of them fully warranted his nomination as a senior or advising lord of the Chief—'He is the ablest adviser, and best executive officer in the British navy, *with honor and courage bright as his sword.*' Of Markham he could not have known much professionally, but speaks highly of him. 'Lord St. Vincent,' Mr. Marsden says, 'during the course of his naval administration, behaved to me with uniform attention and politeness; but my colleague Nepean could not say the same thing, although he had been an old connexion (*follower* as the naval term is) of Sir John Jervis, and had taken a zealous part with the minister in negotiating for him the rank of "earl," instead of "viscount," as was intended after his victory of 14th February. My colleague,' he adds, 'having long found his official situation irksome, in consequence of the footing on which he stood with some of the members of the Board, obtained from Mr. Addington the appointment of Chief Secretary in Ireland, with the rank of baronet.'* Mr. Marsden succeeded Nepean, though he at first declined the Secretaryship; and, he says, opened his mind to Lord St. Vincent. He told him he was convinced, from experience, of the tempers, ideas, and conduct of the professional members of the Board, (Troubridge and Markham;) that he could not carry on the public business with them, with the least chance of satisfaction to his own feelings;† and he frankly expressed to his lordship his conviction, that it was not in his lordship's power to remedy it, as he could not change their natures, or do without them.‡ Marsden contrived, however, to keep on good terms with them, though Nepean could not.

Lord St. Vincent soon discovered that the Admiralty presented no 'bed of roses' to repose upon. It was not a situation he had sought, or one that he ever appeared anxious to retain. Perhaps he did not find himself exactly suited for it. 'What sort of figure I shall make,' (he writes to Lord Keith,) 'will be seen. I have known many a good admiral make a wretched first Lord of the Admiralty. I will, however, support the Commander-in-chief upon all occasions, and prohibit any intrigue against them in this office.' He had long conceived a most unfavorable opinion of the Navy Board, and of the abuses committed in the dockyards. 'I hope,' he says to Mr. Thomas Grenville, 'you will be able to brush these *spiders* from the Navy Board.' This, if meant personally to the members of the board, is too strongly expressed; the system undoubtedly was bad, but there were among the Commissioners many excellent, intelligent, and honest men. Need we mention the name of Sir Andrew Hammond, or of Admiral Sir Byam Martin, than whom a better officer or a more correct man does not exist?

Whether Lord St. Vincent was, in this respect, right or wrong, he had scarcely got into his seat when he determined to

* Sir John Barrow's *Life of Earl Howe.*

* *Brief Memoir of the Life and Writings of Mr. Marsden*—written by himself, and printed by his widow.

† *Ibidem.* ‡ Marsden's *Memoirs.*

probe the alleged abuses to the quick; and for this purpose he brought before the Cabinet the plan of a searching investigation, by means of a commission, which he named 'The Commission of Naval Inquiry,' but which his opponents called the 'Naval Inquisition.' Mr. Addington from the first opposed it, and then rejected it altogether. His Lordship, however, was firm, and declared, 'No power short of what I demand can search such abuses as I denounce; and no honest or faithful servant can have aught to fear;' and he made it the *sine qua non* of his remaining in the Cabinet. They at length yielded, and the 'Commission of Naval Inquiry,' with certain modifications, was instituted by act of Parliament. Mr. Secretary Tucker dined with Lord St. Vincent the day it had been submitted to the Cabinet; when the dinner party was breaking up, Lord St. Vincent said, 'Tucker, stay!' and then added, 'excepting my Lord Chancellor, the whole Cabinet has mutinied to-day. My Commission is rejected; but,' bending his fist, while his countenance personified his invincible firmness, 'we'll read them a lesson out of the articles of war to-morrow, sir!' He then declared that he would not again sit on the ministerial bench in the House of Lords, till he had carried his point.

Fourteen or fifteen large folio volumes being published at the time, it was hardly necessary or expedient for our biographers to go into lengthened details of a measure productive of little or no interest or importance, unless a harassing and expensive state prosecution of the late Lord Melville may have been so considered; which, though it failed of conviction, yet succeeded in utterly destroying his utility as a statesman, while it deprived Mr. Pitt of an able coadjutor

The next step taken by his lordship was a personal visitation, by himself and his Board, to the dockyards; the main object being, as Marsden says, 'to find grounds for delinquencies presumed in the first instance.'—'At Deptford,' he says, 'we experienced much abuse from the enraged families of the workmen discharged, or reduced in their allowances, and with some difficulty escaped from worse treatment.' In point of fact they did not escape; for we know, from the same authority, that the whole Board was pelted along the street of Deptford with mud and stones, from the moment they passed the dock gates.

No murmurs were heard at the visitation of Plymouth dockyard. The mutinous spirit of the shipwrights there he had previously subdued. They had sent up to the Admiralty a set of delegates, (a name synonymous, in his lordship's opinion, with rebels or mutineers,) who were expected to extort from the Board, just then pressed for an increase of ships, a compliance with several exorbitant demands—such as Lord St. Vincent denounced as not merely remonstrances, but insubordination, which he determined, with his usual firmness, at once to punish. These gentlemen delegates were thunderstruck on being informed that the Board had ordered they should be turned out of the Admiralty yard into the street, and that every man of them was discharged from the service.

But these proceedings, however expedient, must have been most annoying to Lord St. Vincent, and must have proved to him how very unlike 'Princes' were first Lords of the Admiralty. All the naval departments, from the Navy Board (the highest) to the lowest, were in hostility to his Board; and it was not appeased by the Earl's appointing his private Secretary a commissioner of the navy, with a seat at the board in Somerset House—a very proper appointment of a fit and able man, had it proceeded from any other quarter.

The Board was much censured by the public for the kind of preparation made against the threatened invasion of England from Boulogne, and for appointing that 'bravest of the brave,' Nelson, to the command of a service so unworthy of him;—for establishing the sea fencibles; building Martello towers; sinking stone vessels, &c.; and Mr. Pitt brought forward, in the House of Commons, various charges of mismanagement in the naval service. His motion was negatived; but Mr. Addington's administration had become so unpopular, that the Whigs united with Mr. Pitt against it; and Mr. Fox's motion on the national defence being lost only by a small minority, Mr. Addington's Cabinet resigned.

On the whole, Lord St. Vincent's administration was not popular. We are strongly disposed to believe that it was mainly owing to two circumstances;—the one an honest and ardent desire to put an end to those gross and avowed abuses, which pervaded the whole *civil* departments of the naval service—an attempt which brought upon him a violent hostility, not only from the parties themselves, but from their friends and connexions; the other, a de-

cided dislike of a great portion of the naval officers to the managing officers of his Board. Lord Howick (Earl Grey) had the same feelings with Lord St. Vincent as to the naval department; but his short stay at the head of the Admiralty, did not permit him to enter upon any efficient steps for a reformation. He did not, however, forget the lesson he had learned at the Admiralty, or the principles inculcated by Lord St. Vincent; and from the moment (as Lord Grey) he became Prime Minister, his first instruction to Sir James Graham, as first Lord of the Admiralty, was, to take immediate steps for an act of Parliament to cancel the Patents of every Commissioner of the Navy, both at Somerset House and at the ports, whether at home or abroad. Thus, as appears by the *Imperial Calendar*, twenty-seven commissioners of the Navy, Victualling, and Transport Boards, were deprived of their Patents on the same day: of whom nine belonged to the Navy Board, and seven to the Victualling and other departments: and in lieu of those sixteen, were substituted five responsible officers, one to each of the five departments into which the new establishment was divided —the Surveyor, the Accountant-General, the Comptroller of Victualling, the Storekeeper, and the Inspector of Hospitals and Fleets—and each of these was under the supervision of a Lord of the Admiralty. Eight or nine superintendents at the ports supply the remainder of the twenty-seven.

This new system, we believe, works well, though at first it met with a determined opposition. It is now twelve years since it was established, and we are not aware that any changes have been found necessary in the plan, though a succession of Whigs and Tories have formed the several Boards of Admiralty; but we may observe that, whether it works well or ill, Lord St. Vincent was, in fact, the *primum mobile* that impelled Lord Grey to adopt it, and Sir James Graham boldly and manfully to carry it into execution.

We have thought it necessary to enter briefly into this discussion as part and parcel, or, at any rate, the result, of Lord St. Vincent's administration of the navy. The space we have allotted for this article will not admit of transcribing any portion of his very voluminous correspondence. Suffice it to say, that it was always to the point in question—briefly and clearly expressed, and free from all ambiguity. When obliged to refuse a request, it was generally couched in kind and courteous terms, whether his refusals were addressed to the Princes of the Royal Family, the first Nobles of the land, or to a poor Lieutenant.

On the death of Mr. Pitt, and the accession of Lord Grenville as Prime Minister in 1806, and Lord Grey as first Lord of the Admiralty, Lord St. Vincent a second time accepted the command of the Channel fleet; and being promoted to the high rank of Admiral of the fleet, he hoisted the Union flag at the main in the Hibernia. Just then intelligence arrived of the renowned victory of Trafalgar; on which occasion the old Earl wrote thus to his Secretary:—'Lord Collingwood has done himself immortal honor by his conclusion of the battle, which Nelson so nobly began. Writing to you privately, I suppose I may confess that I do feel a pride in this great victory beyond the general enthusiasm. *I was prepared for every thing great from Nelson, but not for his loss.*' No wonder that the news of this immortal achievement, and of the loss of the unsurpassable hero by whose sublime genius it had been planned, and who had hailed him as 'the father' of a numerous contemporary group of England's most illustrious seamen, should have occasioned a glow of enthusiasm, attempered with a severe pang to a nature which, though strong and stern, was yet as tender and feeling as it was warmly patriotic!

About this time Lisbon was threatened with the presence of a French army; on which it was deemed expedient to send an embassy to negotiate with the house of Braganza, supported by a strong squadron and a large body of troops, which were immediately to be dispatched to the Tagus. Lord St. Vincent was nominated for this service, as being considered the most fit for such an occasion. The object was to defend the country, if that should be found practicable; and if not, the Court should resolve to remove itself with the ships, forces, and stores to the Brazils—in either case his lordship was to lend his co-operation. The storm, however, did not break over Portugal quite so soon as was anticipated; and before the end of the year Lord St. Vincent was ordered to resume his command before Brest.

Almost immediately after this, Mr. Fox died, and Mr. Thomas Grenville took the place of Lord Howick (Earl Grey) in the Admiralty, where he remained only a few months; George III. being anxious to get rid of a ministry, 'many of whom,' says

Mr. Tucker, 'he personally disliked, and the political principles of whom he detested.' On the change of administration, Lord St. Vincent immediately resigned his command; and was ordered to strike his flag and come on shore—an order 'to which,' as he wrote to his Secretary, 'he meant to be very prompt in paying obedience.'

During this short command we see little to call for any remark. There is, however, an observation his lordship makes in a letter to his former Secretary, who was now the second Secretary to the Admiralty, which rather surprised us. 'I pity,' he says, 'the exposure of the weakness of some of your lords, whose dulness I have long been acquainted with.' Now these weak and dull lords were his old colleague John Markham, and the other naval lords were Sir Charles Pole and Sir Harry Neale. In another letter to Lord Howick he thus expresses himself—'I am sorry to say there are few flags at the main or the fore I have any respect for;' and farther—'If you will, my good lord, bring a bill into Parliament to disqualify any officer under the rank of Rear-Admiral to sit in the House of Commons, the Navy may be preserved; but while a little, drunken, worthless, jackanapes is permitted to hold the seditious language he has done, in the presence of flag-officers of rank, you will require a man of greater health and vigor than I possess to command your fleets.'

In answer to another letter of Lord Howick, who had asked his opinion of Clerk's system of Naval Tactics, he says—'If it had any merit in the battles of the 1st June, of Camperdown, and Trafalgar, that fought off Cape St. Vincent is totally out of the question.' That Lord Rodney passed through the enemy's line *by accident*, not by design—that Lord Howe's attack upon the fleet of the enemy was at variance with the tactics of Mr. Clerk—that Lord Duncan's action was fought pell-mell, without plan or system—that the attack of Aboukir furnishes no argument for, or against, these tactics—'that a fleet to windward bearing down at right angles upon the fleet of an enemy must be crippled, if not totally disabled, before it can reach the enemy,' (Clerk's position,) has been disproved by the more recent action, under Lord Nelson, bearing down in two columns at Trafalgar.' He adds—'Mr. Clerk is most correct in his statement of the advantages to be derived from being to leeward of the fleet of the enemy.' On the whole, he admits that the work is ingenious, and worthy the study of all young and inexperienced officers; adding, however, that he perceives signs of compilation from Père le Hoste down to Viscount de Grenier. The question as to the originality and merits of our distinguished countryman's system, we have long since fully discussed; and shall only now add, as we are bound in fairness to do, that the latter tendencies of opinion are rather adverse to that which we upheld.

Lord St. Vincent having now struck his flag for the last time, received a summons to a private audience of the King. After a few preliminaries, the King said—

'"Well, Lord St. Vincent, you have now quitted active service, as you say, for ever—tell me, do you think the naval service is better or worse than when you first entered it?"

'*Lord St. Vincent*—"Very much worse, please your Majesty."

'*The King* (quickly)—"How so, how so?"

'*Lord St. Vincent*—"Sire, I have always thought that a sprinkling of nobility was very desirable in the navy, as it gives some sort of consequence to the service; but at present the navy is so overrun by the younger branches of nobility, and the sons of members of Parliament, and they so swallow up all the patronage, and so choke the channel to promotion, that the son of an old officer, however meritorious his services may have been, has little or no chance of getting on."

'*The King*—"Pray, who was serving captain of the fleet under your lordship?"

'*Lord St. Vincent*—"Rear-Admiral Osborne, Sire."

'*The King*—"Osborne, Osborne! I think there are more than one of that name admirals."

'*Lord St. Vincent*—"Yes, Sire, there are three brothers, all admirals."

'*The King*—"That's pretty well for democracy, I think."'

How cleverly and adroitly was the fact as to the Osbornes drawn forth by the King! The old lord proceeded to explain it in detail, and ended thus:—

'"Sire, I hope your majesty will pardon me for saying, I would rather promote the son of an old deserving officer than of any noble in the land." The king mused for a minute or two, and then said—"I think you are right, Lord St. Vincent—quite right.'"

Lord St. Vincent now retired into private life, bearing with him, as Sheridan happily said, 'a triple laurel—over the enemy, the mutineer, and the corrupt.' The state of his health did not allow him

to reside long at his house in London, and his small retreat of Rochetts, therefore, became his principal abode; but he occasionally came up to attend the House of Lords, and sometimes, on particular subjects, he spoke, and with biting severity.

He opposed Lord Grenville's bill for the abolition of the slave trade. He doubted the humanity of the measure, as 'from his own experience he was enabled to state, that the West Indies was paradise itself to the negroes, compared with their native country;' and he could only account for the noble proposer bringing it forward 'by supposing that some *obi-man* had cast his spell upon him.' He was a steady advocate for Catholic Emancipation. 'God forbid,' he said, 'that any the smallest alteration should be made in the bill to enable the Catholics to serve in the navy and army;' and he expressed his indignation on hearing that Sir John Cox Hippesley had gone to the Congress of Aix-la-Chapelle to obtain a decree for the extinction of the Jesuits;—an Order to whom we were obliged, not only 'for the most useful learning and discoveries of every description, and necessary for the instruction of the Catholic youth throughout the civilized world.' With the same feeling of toleration and liberality, he is said to have subscribed £100 towards building a chapel for the Jews, and also to their hospital.

It appears, indeed, that he was generous and charitable, even to profusion; of which several marked instances have been mentioned in the course of our remarks. But he had no commiseration for the exigencies of a spendthrift; and a gambler was his detestation. To an officer who had contracted debt he says—'Having fought my way up to where I now stand, without the smallest pecuniary aid from any one, even when I was a mid, I cannot possibly entertain an opinion that officers of this day, whose half-pay is considerably more than formerly, cannot practice the same necessary economy which marked the character of mine.' His Lordship, in the plenitude of his pecuniary circumstances, never lost sight of a prudent economy; but his generosity was liberally and extensively manifested. 'The charity to the poor,' says Mr. Tucker, 'from Lord St. Vincent's establishment, was equal to that of any mansion in England; and the delightful drives with him to inspect the erection of the cottages he built for some industrious laborers, can never be forgotten. Throughout his whole command, indeed, we constantly meet with instances of his generosity. 'Let but a case of real misfortune be brought before him, especially of an officer who had deserved well, and whose necessity was not occasioned by his own imprudence, it would be sure to meet relief, promptly, liberally, and with an exquisite delicacy of feeling still more admirable.' There can be no greater or more exalted praise! A private soldier at Gibraltar fell into a deep pit, so filled with mud, and exhaling noxious vapors, that no one would venture down to help him. One Joaquim, who had been boatswain of Nelson's ship, and now in the dockyard, let himself down by a rope, and rescued the poor fellow. Lord St. Vincent presented his deliverer with a piece of plate, value £28, with this inscription—'For preserving a soldier's life at the risk of his own.' Hearing by chance that poor Dibdin, to whose happy genius such excellent nautical songs are due, was in distressed circumstances, Lord St. Vincent immediately sent him £100, and desired an inquiry into the real state of his case to be made; 'for it would indeed be a shame, Mr. Tucker,' he said, 'that the man who has *whiled away the mid-watch, and softened the hardships of war*, should be in need, while a seaman enjoys an abundance.' What a tribute to the Muse of Dibdin, and how noble, generous, and kindly the sentiment which it embodies!

Never, indeed, was there a more compassionate or a more kind-hearted man than Lord St. Vincent. A domestic affliction had greatly depressed his old confidential Secretary's health and spirits. To divert his thoughts, and with no other motive, his lordship said to him that he had long wished to visit the Scilly islands to look at a spot for a lighthouse, and also Cornwall to inquire into the rapid deterioration of copper, and he desired the Secretary's attendance at these inspections; and his humane and now aged Chief actually took that long and fatiguing journey ostensibly with these objects, but really to assuage the grief of an old and attached servant.

The loss of Sir Thomas Troubridge sank deeply into his heart. In a postscript to a letter are these words—'Oh, Blenheim! Blenheim! where are you?' After the receipt of every letter he would exclaim—'Where is the Blenheim? What can have become of the Blenheim? I shall never

see Troubridge's like again.' He called him 'the Bayard of the British navy.'

In 1816, when in his 81st year, Lady St. Vincent died. On her monument, by Chantrey, in the church of Stone, is the following short but classically simple inscription by his lordship:—

'Sacred to the memory of
MARTHA, COUNTESS ST. VINCENT,
who was eminently pious, virtuous, and
charitable.'

Her age is not given, but she could not be much less than seventy. No mention is made of her domestic life. It is only stated that she was a lady of kindly feelings; that the state of her health had made her very infirm; and that, as a wife, her adoration of her lord was very ardent. They lived together thirty-four years.

In answer to a note from Captain Tower, accompanied by a bust of Napoleon, in which the Captain says—'I feel a gratification in presenting it to one who knows how to respect a great and fallen enemy,' Lord St. Vincent replies—'You do me justice in attributing the feelings you so well describe to my character; and I blush for those who trample upon a man many of them feared, and all allowed, in the career of his military glory, to be an astonishing character.' And shortly before his death he took occasion to observe—'That it had often been a matter of satisfaction to him, that Bonaparte saw such specimens of our naval officers as Sir Henry Hotham, Sir George Cockburn, and Sir Frederick Maitland.' When reminded that they all had risen from his own school—'No,' he nobly replied, 'that is too much. They would have been as great any where; it was *with* such men that I formed a school.'

He was much pleased when the present Lord Melville appointed him General of Marines; and took this opportunity, as he had done on a former occasion, of testifying his sense 'of the justice which Lord Melville did to the services of sea-officers'—a compliment most justly due to every part of the administration of that amiable and excellent nobleman, who came into office and left it, twice as first Lord of the Admiralty, with an unblemished reputation.

Lord St. Vincent's great desire, in the declining years of his life, plainly for the sake of his profession, was the Garter. He cherished a hope of it, Mr. Tucker says, to the day of his death, frequently observing, 'that when so many were worn by the soldiers, the sailors should at least have one; that surely England's naval merit must be equal to that; and that the navy never should be without one.' When the Prince Regent increased the order of the Bath, and created Knights' Grand Crosses, his lordship said, he 'did not care whose name they placed on the list, if they had only done him the favor to strike his out; that when he was created a K.B., it was an honorable distinction; but that now he saw names on the list which he thought disgraced it, and all classes with them.' The Duke of Wellington, according to Colonel Gurwood, was pretty much of the same opinion as regarded the Army.

In 1818, then in his eighty-third year, the decay of his health was so perceptible, and his cough so distressing, that he was advised to winter in a milder climate. Captain and Miss Brenton, and a medical attendant, accompanied him to the south of France. Every honorable reception and attention were paid to him in passing through France. He continued at Hyeres until the spring of 1819, and then returned. An anecdote is told by Mr. Tucker, which the writer of this article heard from the noble Earl himself, at his own table at Rochetts. He had been walking in his grounds, and looking at a green-house then building, when his bailiff suggested that a venerable old oak should be felled, as it was rapidly decaying. 'I command you to do no such thing,' said his lordship; 'that tree and I have long been contemporaries; we have flourished together, and together we will fall.' He was then exceedingly cheerful and agreeable, but occasionally distressed with his cough; yet even at this time, Miss Brenton, who remained in the house, said he came down stairs about five every morning.

In 1821, Lord Melville appointed him to the rank of Admiral of the Fleet; and shortly afterwards the King honored him with a naval baton, accompanied by an expression of 'his Majesty's warmest regards, as a testimony of his Majesty's personal esteem, and of the high sense he entertained of the eminent services which his lordship has rendered to his country, by his distinguished talents and brilliant achievements.'

When George IV. was about to embark on his visit to Scotland, Lord St. Vincent proceeded to Greenwich, and slept at the house of Sir George Keats, governor of the

hospital, in order to pay his respects to his Majesty on board his own yacht. Long before six in the morning, the old Earl was seen on the terrace with four old pensioners, who had served under him, walking in his wake, and in frequent conversation with them. Their only object was an interview with their old Commander-in-chief, now in his eighty-eighth year. On his return to breakfast he appeared in more than usual spirits, related the interview, and said, 'We all in our day were smart fellows.' On this occasion he wore, for the first time, the repudiated Star of the Grand Cross of the Bath, that of the Knights Commanders being usually worn by him. It is stated, as a trait of his kind attention to children, that one day being asked by a child what that star was, and where he found it—'I found it,' he replied, 'upon the sea; and if you become a sailor, and search diligently, perhaps you may find just such another.' The interview with his Majesty was long and gracious; it was also the last time that his lordship was on the water, and the last officer who, on duty, had the honor of attending him, was the present Commander M'Clintock, whose arm assisted his lordship's tottering step on shore from the boat; and then taking off his hat to the youthful midshipman, 'Thank ye, sir—thank ye!' said the old admiral, in his last adieu to the naval service.

From this day, August 1822, to March 1823, Lord St. Vincent's robust frame was approaching its last functions; old age, debility, and convulsive fits of coughing, had all but worn it out. Yet, on the 13th of that month, while the hand of death was just upon him, he was still alive to the great passing events of the day; and about eight in the evening, after lying in silent exhaustion for two hours, he departed without a sigh or a groan, in the presence of his affectionate friends, Sir George Grey, Doctor Baird, and his faithful old Secretary. It is stated he did not die wealthy. He was succeeded in the Peerage by his nephew, Mr. Edward Jervis Ricketts, inheriting the Viscounty only. His remains were interred at Stone in Staffordshire, quite privately, as his will directed. A public monument is erected to his memory in St. Paul's Cathedral.

We shall here extract Mr. Tucker's synopsis of the Earl's public character and services:—

'To the ardent admirers of the great admiral, nothing could be more easy or gratifying than to eulogize his naval career, which would not be more glowing than just. To repeat his inexhaustible expedients to overcome difficulties; the reformation, the instruction, the rapid advance of his school; the spirit which he infused of enterprise; the omnipresence which he enforced of obedience; the perfect discipline of his energetic command; the distinguished officers whom he educated; the boldness with which he attacked and defeated an enemy's fleet nearly doubling his own in numbers; the grandeur of his conduct in the mutiny; the wonderful skill with which he drew forth the powers and resources of all ranks of subordinates, and then combined them to work together for the country; his fearless opposition to injurious prejudices and usages, of however long standing, however high abode; and, what crowns his course, the ulterior and lasting excellences which have emanated from his system—on all this it would be delightful to indulge.'

To this not very felicitous summary we may add a few words, though we have already touched on most of the transactions in which, throughout his public life, he bore a principal part. It cannot be supposed that, during his long and active career, Lord St. Vincent escaped censure;—proceeding mostly, however, from those civil servants of the naval department whose irregularities—to call them by no harsher name—had provoked his ire, and induced him to the adoption of measures for their correction, which seriously affected the reputation of some, and the interests of many. Neither can it be expected that he passed through the various stages of public life altogether free of blame. But if he had faults, they were so much neutralized by great and eminent virtues—charity, generosity, and magnanimity—as to prevent their assuming any general or prominent character. Nor was there in his disposition any thing sullen or morose, whatever the provocation might be. His anger was never smothered, but readily appeased by giving it full vent. He was undoubtedly severe; but the occasions which called for its exercise fully justified it. These were chiefly two. The first, his prompt measures for the complete extinction of the mutiny in the fleet before Cadiz, augmented as it frequently was by mutinous ships sent to him from England. What the consequences must have been of an organized mutiny in a fleet close to an enemy's port, on a foreign station, cannot be unknown to any, and is fearful to contemplate; but by a stern and uncompromising severity—if sending the criminals to immediate exe-

cution, after a legal conviction, can be so called—he saved the fleet, and rescued the country from the dreadful recurrence of a second general mutiny, the first of which had recently, but imperfectly, been subdued at home. The second instance was, his conduct to the officers of the Channel fleet. Here, too, he was not only fully justified, but imperatively called upon, to put in force a rigid system of discipline, which had been unaccountably neglected. On taking the command of this fleet, he found an extraordinary laxity of duty, and disregard of all discipline;—the Captains sleeping on shore; boats constantly employed for them; the men deserting by hundreds; the Commander-in-chief very much in London; the other flag-officers, good easy men, letting things go on quietly; and all this while the fleet was supposed to be watching that of the enemy, ready to start from Brest! What a difference of conduct must the Admiral have here found, from that of the active and gallant officers he had been accustomed to command in the Mediterranean, where mutual affection and respect prevailed. But he soon brought these other officers to a sense of their duty and obedience;—by rigid and decisive measures, at first, and by subsequent indulgences to all whom he found deserving of them. He thus succeeded in converting their displeasure into regard and good will. In fact, they soon discovered that, whatever discomfort the exigencies of the service demanded from them, their Commander-in-chief was the first to make the sacrifice and show the example.

The liberality of his political opinions was another fault with many; but though a decided Whig in principle, his political feelings and opinions were displayed only in Parliament, or on public occasions. On service he never suffered them to appear. Throughout the whole course of his professional career, his conduct proved him to be far removed from the influence of party considerations. In the multitude of applications which he received for promotions, from Princes of the Blood, the highest Nobles, and Members of Parliament, of his own party, he invariably told them, as appears from his own Letters,* that deserving young men, who were sons of old and meritorious officers, always had, and always should continue to have, the first claim on his patronage. In this and all other respects, he was not more steady to his purpose than prompt in decision.

Of great mental and bodily powers, he was never disconcerted by difficulties, and never deficient in means to overcome them. His vigilance was extreme. Nothing passed in the fleet without his observation; and he is described to have had an eye so quick and piercing, that it was often said he appeared to look through one. On shore he was cheerful, lively, and fond of a joke. The account of his calling up Captain Darby at Gibraltar, and detaining him at a bedroom window to listen to a pretended dream he had just awakened from, is more like a story in a novel than an incident of real life, (Tucker, vol. i. 371.) With children he was always playful, though he had none of his own. The two portraits in Mr. Tucker's volumes are good; that given by Captain Brenton is a perfect satyr—a Silenus. In his countenance was a strong expression of intelligence; in his figure, and manners, and speech, he was the picture of a true Englishman.

We have little to say generally on Mr. Tucker's volumes. Though he had every motive to paint the character and conduct of Lord St. Vincent, as regards the public service of the State, in the brightest colors, we must do him the justice to say, that the portrait he has drawn appears to be a faithful and accurate likeness, free from flattery and exaggeration. But, throughout the work, the execution is far from faultless. In point of taste, correctness of construction, and purity of expression, it is eminently defective. His long sentences are sometimes so involved, inflated, and inverted, as not easily to be intelligible. In this latter particular we have seldom, indeed, seen a work so obnoxious to censure. In the use made of the Earl's Letters, there is an utter want of literary resource. Had one half of the six hundred he has given been omitted, and the other half dovetailed into the narrative, instead of being huddled together at the end of each chapter, it would have been a great improvement, and a relief to the reader. Every name almost, in these Letters, is a blank; in most cases

* In one to Mrs. Montague, who had solicited the promotion of------, he says, 'The officers of the Ville de Paris remain as they did when I left her; and my own nephew, commander of the Stork sloop, who is respected as an officer of uncommon merit and acquirements, stands as he did before I came into office; and I have refused to promote at the request of four Princes of the blood.'---These were, the Prince of Wales, and the Dukes of Clarence, Kent, and Cumberland.

unnecessarily so. These great blemishes and faults will, we hope, be at least partly removed, should another edition be called for.

ESSAYS. BY AN INVALID.

From the Dublin University Magazine.

Life in the Sick-Room. Essays. By an Invalid. London: Edward Moxon. 1844.

THIS is a wise and thoughtful book—the offspring of a lofty mind—and, coming to us with its pleading motto,

> "For they breathe truth that breathe their words in pain,"

cannot fail in finding a welcome. Its tone is healthy; and the subjects with which it deals are of the highest kind. We have seldom opened a volume more pregnant in noble thought; and throughout are the traces of a disciplined spirit—a spirit raised and exalted by suffering, which finds "good in every thing" it encounters by the way to its rest.

The writer is evidently a woman. Were we without the half acknowledgment that it is so, we should have surmised the fact from the tone and temper of the work. There is the characteristic fortitude of the sex under great privation and trial manifest; the silent endurance; the patient hope; the weakness where man would be strong, and the power where man would be weak; and, above all, the deep religion of the heart, and its inner devotion, which *we* find so difficult—and sometimes impossible—to attain to. Moreover, the style betrays the practised hand; it is simple, yet eloquent, never deficient in power, and always unaffected and chaste; its beauty is not marred by false ornament. We were constantly reminded by it of what the old Spectator quaintly termed "thinking aloud"—the highest praise that can be given to the essay form of composition.

But we hear some of our own readers turning impatiently from the title of our review. "'Essays; by an Invalid!'—pooh, pooh! what does the sick man or woman—whichever it be—mean by chronicling his, or her, pains and griefs?—cataloguing, I suppose, the physician's visits, and copying out the apothecary's bills. I'll none of it, and pass on." Be not so hasty, good friend, for we know you are not in general so thoughtless. Have you never looked upon sickness in its true light, as a course of moral probation, which it is a blessed thing to pass through, albeit the journey itself be wearisome? Have you never experimentally felt the new ideas it gives one—beheld the new light it floods this world in—and found in your own breast such revealings of present and future good as more than atoned for whatever of trial it brought you? We know well that health and sickness are two states so different, that there can exist—naturally—but little sympathy between them; and now we are not going to bring you into the gloom of a sick chamber, but into bright light. In examining the work before us, we shall show you trains of thought which the healthful are too giddy to seek after, and which perhaps they are not constituted to experience, even were their search most diligently conducted.

In truth, the daily life of the mind is a thing too generally neglected. No doubt metaphysical studies are more followed now than at any previous time, and the progress we have made in them is as pleasing as it has been unexpected; but in these we have more of the mind's history than the record of its daily experiences. They rather lay before us the development of its marvellous powers, than reach and touch us by a sense of personal engagement. Thus they want *individuality;* and relate to the common possessions of the species, chiefly if not altogether. It is far different to know these things ourselves, to learn them from our inner thoughts, and form our philosophy less on books than on the *γνῶθι σεαυτὸν*. When laid aside from the busier scenes of life, we are in a manner constrained to this wise self-searching. The period of invalidism, which unfits us for the turmoil of active existence, seems peculiarly adapted for the acquirement of this hallowing wisdom. We breathe a purer air. When worldly hope dies, a better hope is born; and in a few days or hours of sickness, we acquire experiences which the long years of previous health had failed to impart.

The measure of time is not the years we live, but the feelings we have present with us during their progress. Thus, some hours are longer with us than as many days; and some days seem as though they would never end. We speak of seasons of agony,

whether of mind or body. Byron says to the purpose—

"A slumbering thought is capable of years,
And curdles a long life into one hour."

Pain or joy become, in their several ways, the gauges of duration—the former lengthening it out into an apparently interminable existence—the latter causing even years to pass away in rapid and unmarked flight. The experience of every one will confirm our statement. But these antagonistic principles (and not less so in their nature, than in their present effects) leave behind them, with the heart that receives them aright, one abiding influence of good. Pain passes away, and is forgotten; good subsists, and immortally survives. This is the subject our author first handles:—

"The sick-room becomes the scene of intense convictions; and among these, none, it seems to me, is more distinct than that of the permanent nature of good, and the transient nature of evil. At times I could almost believe that long sickness or other trouble is ordained to prove to us this very point—a point worth any costliness of proof.

"The truth may pass across the mind of one who has suffered briefly—may occur to him when glancing back over his experience of a short sharp illness or adversity. He may say to himself that his temporary suffering brought him lasting good, in revealing to him the sympathy of his friends, and the close connexion of human happiness with things unseen; but this occasional recognition of the truth is a very different thing from the abiding and unspeakably vivid conviction of it, which arises out of a condition of protracted suffering. It may look like a paradox to say that a condition of permanent pain is that which, above all, proves to one the transient nature of pain; but this is what I do affirm, and can testify.

"The apparent contradiction lies in the words 'permanent pain'—that condition being made up of a series of pains, each of which is annihilated as it departs; whereas, all real good has an existence beyond the moment, and is indeed indestructible.

"A day's illness may teach something of this to a thoughtful mind; but the most inconsiderate can scarcely fail to learn the lesson, when the proof is drawn over a succession of months and seasons. With me, it has now included several New Year's days; and what have they taught me? what any future New Year's restrospect cannot possibly contradict, and must confirm; though it can scarcely illustrate further what is already as clear as its moon and stars."

Then, in reference to the past year's experiences, our invalid proceeds:—

"During the year looked back upon, all the days, and most hours of the day, have had their portion of pain—usually mild—now and then, for a few marked hours of a few marked weeks, severe and engrossing; while perhaps, some dozen evenings, and half-dozen mornings, are remembered as being times of almost entire ease. So much for the body. The mind, meantime, though clear and active, has been so far affected by the bodily state as to lose all its gayety, and, by disuse, almost to forget its sense of enjoyment. During the year, perhaps, there may have been two surprises of light-heartedness, for four hours in June, and two hours and a half in October, with a few single flashes of joy in the intermediate seasons, on the occurrence of some rousing idea, or the revival of some ancient association. Over all the rest has brooded a thick heavy cloud of care, apparently causeless, but not for that the less real. This is the sum of the pains of the year, in relation to illness. Where are the pains now? Not only gone, but annihilated. They are destroyed so utterly, that even memory can lay no hold upon them. The fact of their occurrence is all that even memory can preserve. The sensations themselves cannot be retained, nor recalled, nor revived; they are the most absolutely evanescent, the most essentially and completely destructible of all things. Sensations are unimaginable to those who are most familiar with them. Their concomitants may be remembered, and so vividly conceived of, as to excite emotions at a future time: but the sensations themselves cannot be conceived of when absent. This pain, which I feel now as I write, I have felt innumerable times before; yet, accustomed as I am to entertain and manage it, the sensation itself is new every time; and a few hours hence I shall be as unable to represent it to myself as to the healthiest person in the house. Thus are all the pains of the year annihilated. What remains?

"All the good remains.

"And how is this? whence this wide difference between the good and the evil?

"Because the good is indissolubly connected with ideas—with the unseen realities which are indestructible. This is true, even of those pleasures of sense which of themselves would be as evanescent as bodily pains. The flowers sent to me by kind neighbors have not perished—that is, the idea and pleasure of them remain, though every blossom was withered months ago. The game and fruit, eaten in their season, remain as comforts and luxuries, preserved in the love that sent them. Every letter and conversation abide—every new idea is mine for ever; all the knowledge, all the experience of the year is so much gain. Even the courses of the planets, and the changes of the moon, and the hay-making and harvest, are so much immortal wealth—as real a possession as all the pain of the year was a passing apparition. Yes; even the quick bursts of sunshine are still mine. For one instance, which will well illustrate what I mean, let us look back so far as the

spring, and take one particular night of severe pain, which made all rest impossible. A short intermission, which enabled me to send my servant to rest, having ended in pain, I was unwilling to give further disturbance, and wandered, from mere misery, from my bed and my dim room, which seemed full of pain, to the next apartment, where some glimmer through the thick window-curtain showed that there was light abroad. Light, indeed! as I found on looking forth. The sun, resting on the edge of the sea, was hidden from me by the walls of the old priory; but a flood of rays poured through the windows of the ruin, and gushed over the waters, strewing them with diamonds, and then across the green down before my windows, gilding its furrows, and then lighting up the yellow sands on the opposite shore of the harbor, while the market-garden below was glittering with dew, and busy with early bees and butterflies. Besides these bees and butterflies, nothing seemed stirring, except the earliest riser of the neighborhood, to whom the garden belongs. At the moment, she was passing down to feed the pigs, and let run her cows; and her easy pace, arms a-kimbo, and complacent survey of her early greens, presented me with a picture of ease so opposite to my own state, as to impress me ineffaceably. I was suffering too much to enjoy this picture at the moment: but how was it at the end of the year? The pains of all those hours were annihilated—as completely vanished as if they had never been; while the momentary peep behind the window-curtain made me the possessor of this radiant picture for evermore. This is an illustration of the universal fact. That brief instant of good has swallowed up long weary hours of pain. An inexperienced observer might, at the moment, have thought the conditions of my gain heavy enough; but the conditions being not only discharged, but annihilated long ago, and the treasure remaining for ever, would not my best friend congratulate me on that sunrise? Suppose it shining on, now and for ever, in the souls of a hundred other invalids or mourners, who may have marked it in the same manner, and who shall estimate its glory and its good!"

We trust that there are hundreds whose experiences are of a like nature; but clearly it is not every sufferer who possesses equal strength of mind. To recognize in pain a chastisement whose tendency is unmixed good—"a mere disguise of blessings otherwise unattainable"—a holy medium through which the soul must pass to a higher life—one must feel that it is sent us from a divine hand. Imperfectly as we frame our ideas now, calling very often evil good, and good evil, when we acknowledge that we are at present in a state of moral discipline, we come of necessity to this happy conclusion. We look not so much on the narrow present, as "before and after" with the eyes of memory and hope, and see light gradually evolving from the darkness, and heavenly intentions of good wrought out by means apparently the most adverse. And so our invalid is enabled to speak, at the twelvemonth's end, of all

——"the richness of my wealth, as I lie, on New Year's eve, surrounded by the treasures of the departing year—the kindly year which has utterly destroyed for me so much that is terrible and grievous, while he leaves with me all the new knowledge and power, all the teachings from on high, and the love from far and near, and even the frailest-seeming blossom of pleasure that, in any moment, he has cast into my lap."

The closing of the essay is very beautiful:—

"True and consoling as it may be, to find thus that 'trouble may endure for a night, but joy cometh in the morning,' they have not fully learned the lessons of the sick-room if they are not aware that, while the troubles of that night-season are thus sure to pass away, its product of thoughts and experiences must endure, till the stars which looked down upon the scene have dissolved in their courses. The constellations formed in the human soul, out of the chaos of pain, must have a duration, compared with which, those of the firmament are but as the sparkles shivered over the sea by the rising sun. To one still in this chaos—if he do but see the creative process advancing—it can be no reasonable matter of complaint, that his course is laid the while through such a region; and he will feel almost ashamed of even the most passing anxiety as to how he may be permitted to emerge."

We have next the subject, sympathy to the invalid, discussed. How difficult to sympathize aright! Good-nature will not do this; it is too often as repulsive as it is kindly-intentioned. Friendship itself here at times fails; it has no plummet for the depths of hidden sorrow. But when this nearness of identification is reached, what boon on earth beside could compensate for it?

"The manifestations of sympathetic feeling are as various as of other feelings; but the differences are marked by those whom they concern with a keenness proportioned to the hunger of their heart. The rich man has even sometimes to assure himself of the grief of his friends, by their silence to him, as circumstances which he cannot but feel most important. Their letters, extending over months and years, perhaps contain no mention of his trial, no reference to his condition, not a line which will show to his executors that the years over which they spread were years of illness.

Though he can account for this suppression in the very love of his friends, yet it brings no particular consolation to him. Others, perhaps, administer praise—praise, which is the last thing an humbled sufferer can appropriate—praise of his patience or fortitude, which perhaps arrives at the moment when his resolution has wholly given way, and tears may be streaming from his eyes, and exclamations of anguish bursting from his lips. Such consolations require forbearance, however it may be mingled with gratitude. Far different were my emotions when one said to me, with the force like the force of an angel, 'Why should we be bent upon your being better, and make up a bright prospect for you? I see no brightness in it; and the time seems past for expecting you ever to be well.' How my spirit rose in a moment at this recognition of the truth!

"And again, when I was weakly dwelling on a consideration which troubled me much for some time, that many of my friends gave me credit for far severer pain than I was enduring, and that I thus felt myself a sort of impostor, encroaching unwarrantably on their sympathies. 'Oh, never mind,' was the reply; 'that may be more balanced hereafter. You will suffer more with time, or you will seem to yourself to suffer more; and then you will have less sympathy. We grow tired of despairing, and think less and less of such cases, whether reasonably or not; and you may have less sympathy when you need it more. Meantime, you are not answerable for what your friends feel; and it is good for them, natural and right, whether you think it accurate or not.'

"These words put a new heart into me, dismissed my scruples about the over-wealth of the present hour, and strengthened my soul for future need—the hour of which has not, however, yet arrived. It is a comfortable season, if it may but last, when one's friends have ceased to hope unreasonably, and not 'grown tired of despairing.'

"Another friend, endowed both by nature and experience with the power I speak of, gave me strength for months, for my whole probation, by a brave utterance of one word—'Yes:' in answer to a hoping consoler, I told a truth of fact, which sounded dismal, though because it was fact I spoke it in no dismal mood; and the genius at my side in a confirmatory 'yes,' opened to my view a whole world of aid in prospect from a soul so penetrating and so true."

Yes; the fitting habitant of the sick-room is truth, simple truth; yet, in no other place is deception, in all its hollowness, so often found; and false hopes are excited by well-meaning friends, who with cruel mocking promises bid the sufferer look forward to reviving health, even when it has wholly departed. The true friend is he who tells the truth.

"If it be asked, after all this, 'Who can console? how is it possible to please and soothe the sufferer?' I answer that nothing is more easy, nothing is more common, nothing more natural, to simple-minded people. Never creature had more title than I to speak confidently of this, from experience which melts my heart day by day. 'Speaking the truth in love' is the way. One who does this cannot but be an angel of consolation. Every thing but truth becomes loathed in a sick room. The restless can repose on nothing but this; the sharpened intellectual appetite can be satisfied with nothing less substantial; the susceptible spiritual taste can be gratified with nothing less genuine, noble and fair. Then the question arises, what sort of truth? Why, that which is appropriate to the one who administers. To each a separate gift may be appointed. Only let all avoid every shadow of falsehood. Let the nurse avow that the medicine is nauseous. Let the physicians declare that the treatment will be painful. Let sister, or brother, or friend tell me that I must never look to be well. When the time approaches that I am to die, let me be told that I am to die, and when. If I encroach thoughtlessly on the time or strength of those about me, let me be reminded; if selfishly, let me be remonstrated with. Thus, to speak the truth, is in the power of all. Higher service is a talent in the hands of those who have a genius for sympathy—a genius less rare, thank God, than other kinds."

Of the false kinds of consolation, that which sends us back to our former lives to meditate on what we have done, and draw comfort from it, is the very vainest; and we truly agree with our author, that the function of conscience is not that of a comforter. The stern rebuker of all that we do amiss, how can it rejoice beings whose lives are so many multiplied wanderings? Oh, little at any time can it do other than chasten; but, when crowding in its images upon the heart weakened by sickness, what can it else do than irrevocably condemn? And yet men speak of the "happiness of an approving conscience!"

"I strongly doubt whether conscience was ever appointed to the function of consoler. I more than doubt: I disbelieve it. According to my own experience, the utmost enjoyment that conscience is capable of is a negative state, that of ease. The power of suffering is strong, and its natural and best condition I take to be one of simple ease; but for enjoyment and consolation, I believe we must look to other powers and susceptibilities of our nature. It is inconceivable to me that our moral sense can ever be gratified by any thing in our own moral state. It must be more offended by our own sins and weaknesses than by all the other sins and weaknesses in the world, in proportion as the evil is more profoundly known

to it, and more nakedly disgusting; because it is stripped of all the allowances and palliations which are admissible in all other cases. And this disgust is not compensated for by a corresponding satisfaction in our own good; for the very best good we can ever recognize in ourselves falls so far short of our own conceptions, so fails to satisfy the requisitions of the moral sense, that it can afford no gratification. . . . . If it is thus in the season of vigor, health, and self-command, how inexpressibly absurd is the mistake of bringing such a topic as consolation to the sick and sequestered!—to the sick, whose whole heart is faint, and the mental frame disordered more or less, in proportion as the body is jaded and the nerves unstrung; and to the sequestered, who perforce devour their own hearts, and find them the bitterest food! . . . . . If the consoler could but see the invisible array which comes thronging into the sick room from the deep regions of the past, brought by every sound of nature without, by every movement of the spirit within—the pale lips of dead friends whispering one's hard or careless words, spoken in childhood or youth—the upbraiding gaze of duties slighted and opportunities neglected—the horrible apparition of old selfishness and pusillanimities—the disgusting foolery of idiotic vanities: if the consoler could catch a momentary glimpse of this phantasmagoria of the sick room, he would turn with fear and loathing from the past, and shudder, while the inured invalid smiles, at such a choice of topics for solace. Then it might become the turn of the invalid to console—to explain how these are but phantoms—how solace does abound, though it comes from every region rather than the kingdom of conscience—and how, while the past is dry and dreary enough, there are streams descending from the heaven-bright mountain-tops of the future, for ever flowing down to our retreat, pure enough for the most fastidious longing, abundant enough for the thirstiest soul. The consoler may then learn for life how easily all personal complacencies may be dispensed with; while the sufferer can tell of a true 'refuge and strength,' and 'present help,' and of this 'river that gladdens the city of God,' and flows to meet us as we journey towards it."

There are next some touching allusions to those "marked days"—anniversaries—so joyous with us in early youth, so mournful when time's finger inscribes them upon tombs. These commemorative seasons, and, above all, that day of olden merriment, Christmas, our invalid recommends should be passed alone. With her sprigs of holly over the fire-place, she can flit away, fancy-plumed, to a thousand hearths, enter "rooms full of young eyes," or gaze for a moment on "the cozy little party of elderly folk round the fire or tea-table, and make her memories her companions during the live-long day. But these subjects are lightly touched on, as though the heart within her failed in giving them utterance; and the sorrowful now was, we fear, victorious in the end. A birth-day spent—we can hardly say kept—in a sick room is sufficient to make the most heedless think; but she draws her comfort from the reflection—"If with every year of contemplation the world appears a more astonishing fact, and life a more noble mystery, we cannot but be reanimated by the recurrence of every birth-day, which draws us up higher into the regions of contemplation, and nearer to the gate within which lies the disclosure of all mysteries which worthily occupy us now, and doubtless a new series of others, adapted to our then ennobled powers." A sublime imagining, and no less true than solemn; yet declaring too well that mere human help was insufficient on such occasions.

The subject of the third Essay is nature to the invalid; it is admirably considered. We need not dilate on the theme, in introducing it, for its power and beauty are sufficient recommendation. All who have seen the look of rapture with which the eyes of the dying are lighted up on beholding fresh and living flowers, remember that sight for ever. It is wonderful, that power of nature over sick and wasted forms, acting upon them like an enchanter's spell, and calling back life to beat strongly about the heart, as in better days! The sights and sounds about us, at such a time should be well-chosen; they will vary with different dispositions—some are satisfied if they can lie all day long, with eyes beholding heaven—others look lower to the green earth or the sea expanse.

"When an invalid is under sentence of disease for life, it becomes a duty of first-rate importance to select a proper place of abode. This is often overlooked; and a sick prisoner goes on to where he lived before, for no other reason than because he lived there before. Many a sufferer languishes amidst street noises, or passes year after year in a room whose windows command dead walls, or paved courts, or some such objects; so that he sees nothing of nature but such sky and stars as show themselves above the chimney-tops. I remember the heart-ache it gave me to see a youth, confined to a recumbent position for two or three years, lying in a room whence he could see nothing, and dependent therefore on the cage of birds by his bed-side, and the flowers his friends sent him, for the only notices of nature that reached him, except the summer's heat and the winter's cold. There was no sufficient

reason why he should not have been placed where he could overlook fields, or even the sea."

To the latter our friend inclines, and assigns her reasons for its choice in her own case :—

"What is the best kind of view for a sick prisoner's windows to command? I have chosen the sea, and am satisfied with my choice. We should have the widest expanse of land or water, for the sake of a sense of liberty, yet more than for variety; and also because then the inestimable help of a telescope may be called in. Think of the difference to us between seeing from our sofas the width of a street, even if it be Sackville-street, Dublin, or Portland-place in London, and thirty miles of sea view, with its long boundary of rocks, and the power of sweeping our glance over half a county, by means of a telescope! But the chief ground of preference of the sea is less its space than its motion, and the perpetual shifting of objects caused by it. There can be nothing in inland scenery which can give the sense of life and motion and connexion with the world like sea changes. The motion of a waterfall is too continuous, too little varied, as the breaking of the waves would be, if that were all the sea could afford. The fitful action of a windmill, the waving of trees, the ever-changing aspects of mountains are good and beautiful; but there is something more life-like in the going forth and return of ships, in the passage of fleets, and in the never-ending variety of a fishery."

In the writer's description of her own retreat, we recognise that pleasant little watering place, Tynemouth, in Northumberland. What a faithful *daguerreotype* painting is the following!—

"But then, there must not be too much sea. The strongest eyes and nerves could not support the glare and oppressive vastness of an unrelieved expanse of waters. I was aware of this in time, and fixed myself where the view of the sea was inferior to what I should have preferred, if I had come to the coast for a summer visit. Between my window and the sea is a green down—as green as any field in Ireland; and on the nearer half of this down, hay-making goes forward in its season. It slopes down to a hollow, where the prior of old preserved his fish, there being sluices formerly at either end; the one opening upon the river, and the other upon the little haven below the priory, whose ruins still crown the rock. From the prior's fish-pond the green down slopes upwards again to a ridge; and on the slope are cows grazing all summer, and half way into the winter. Over the ridge, I survey the harbor, and all its traffic; the view extending from the light-houses far to the right, to a horizon of the sea to the left. Beyond the harbor lies another county, with, first, its sandy beach, where there are frequent wrecks—too interesting to an invalid—and a fine stretch of rocky shore to the left; and above the rocks, a spreading heath, where I watch troops of boys flying their kites; lovers and friends taking their breezy walk on Sundays; the sportsman with his gun and dog; and the washerwomen converging from the farm-houses on Saturday evenings, to carry their loads, in company, to the village on the yet further height. I see them, now talking in a cluster, as they walk, each with her white burden on her head, and now in file, as they pass through the narrow lane; and finally, they part off on the village green, each to some neighboring house of the gentry. Behind the village and the heath stretches the railroad; and I watch the train triumphantly careering along the level road, and puffing forth its steam above hedges and groups of trees, and then laboring and panting up the ascent, till it is lost between the two heights, which at last bound my view. But on these heights are more objects;—a windmill, now in motion and now at rest; a lime-kiln, in a picturesque rocky field; an ancient church-tower, barely visible in the morning, but conspicuous when the setting sun shines upon it; a colliery, with its lofty wagon-way, and the self-moving wagons running hither and thither, as if in pure wilfulness; and three or four farms, at various degrees of ascent, whose yards, paddocks, and dairies I am better acquainted with than their inhabitants would deem possible. I know every stack of the one on the heights. Against the sky I see the stacking of corn and hay in the season, and can detect the slicing away of the provender, with an accurate eye, at the distance of several miles. I can follow the sociable farmer in his summer-evening ride, pricking on in the lanes where he is alone, in order to have more time for the unconscionable gossip at the gate of the next farm-house, and for the second talk over the paddock fence of the next, or for the third or fourth before the porch, or over the wall, when the resident farmer comes out, pipe in mouth, and puffs away amidst his chat, till the wife appears, with a shawl over her cap, to see what can detain him so long; and the daughter follows, with her gown turned over her head, (for it is now chill evening,) and at last the sociable horseman finds he must be going, looks at his watch, and, with a gesture of surprise, turns his steed down a steep broken way to the beach, and canters home over the sands, left hard and wet by the ebbing tide, the white horse making his progress visible to me through the dusk. Then, if the question arises, which has most of the gossip spirit, he or I, there is no shame in the answer. Any such small amusement is better than harmless—is salutary—which carries the spirit of the sick prisoner abroad into the open air, and among country people. When I shut down my window, I feel that my mind has had an airing."

We are less inclined to agree with the writer's speculations on Life, than with any other portion of the volume. The world's amelioration, and the consequent increase of human happiness, are her fond dreams; and she grounds their now probable nearness upon the growing influence of the popular classes. We are old-fashioned enough to regard the movements of the present day with fear, rather than hope. We do not think we have strengthened our political building by knocking away the buttresses and carefully picking out the corner-stones; nor do we see that we have wisely legislated for the masses, by giving them, through our new enactments, fifty masters where they had formerly one. We are stupid enough also to discredit the people's advancement in virtue, since the era of reforms began. Neither increased power, nor increased knowledge, imply of necessity augmented goodness. A sword in a child's hand is most dangerous to the weak wielder of it; perhaps it had better for ever rested in its sheath. We want faith, moreover, in the world's improving itself; and we shall continue to hold such a thing as of impossible occurrence so long as we perceive man deficient alike in the power and in the will to effect the change. We are sure that when such an advancement comes, it will not be from the operations of the human mind, but from a change in the human heart.

The essay "Death to the Invalid," though eminently beautiful, appears to us over full of shadowy mysticism. There is too much of philosophy in it—too little of religion. Here, if any where, on account of our utter ignorance, speculation should have little place. None but they who tasted of it, can tell what it really is; yet the living love to color it with their own fancyings, and according to different dispositions or different emotions, to invest it at one time with terrors, at another time with surpassing beauty. To the invalid, and chiefly to the one who is so permanently, it is of course a constant thought; he turns to it without alarm as the natural exodus from captivity; and as the star brightens on which the eye fastens for a while, he sees in it hour by hour an added glory. We must give an extract:—

"Those who speculate outside on the experience of the sick room, are eager to know whether this solitary tran[illegible] often gone over in the imagination, and whether with more or less relish and success than by those at ease and in full vigor. In my childhood, I attended, as an observer, one fine morning, at the funeral of a person with whom I was well acquainted, without feeling any strong affection. I was somewhat moved by the solemnity, and by the tears of the family; but the most powerful feeling of the day was excited when the evening closed in, gusty and rainy, and I thought of the form I knew so well, left alone in the cold and darkness, while every body else was warm and sheltered. I felt that, if I had been one of the family, I could not have neglectfully and selfishly gone to bed that night, but must have passed the hours till daylight by the grave. Every child has felt this: and every child longs to know whether a sick friend contemplates that first night in the cold grave, and whether the prospect excites any emotions.

"Surely;—we do not contemplate it—frequently—eagerly. In the dark night, we picture the whole scene, under every condition the imagination can originate. By day, we hold up before our eyes that most wondrous piece of our worldly wealth—our own right hand: examine its curious texture and mechanism, and call up the image of its sure deadness and decay. And with what emotions? Each must answer for himself. As for me, it is with mere curiosity, and without any concern about the lonely, cold grave. I doubt whether any one's imagination rests there; whether there is ever any panic about the darkness and the worm of the narrow house.

"As for our future home—the scene where our living selves are to be—how is it possible that we should not be often resorting thither in imagination, when it is to be our next excursion from our little abode of sickness and helplessness—when it is so certain that we cannot be disappointed of it, however wearily long it may be before we go—when all that has been best in our lives, our sabbaths, all sunset evenings and starry nights, all our reverence and love that are sanctified by death, —when all these things have always pointed to our future life, and been associated with it, how is it possible that we should not be ever looking forward to it now when our days are low and weary, and our pleasures few? The liability is to too great familiarity with the subject. When our words make children look abashed, and call a constraint over the manners of those we are conversing with, and cause even the most familiar eyes to be averted, we find ourselves reminded that the subject of a person's death is one usually thought not easy to discuss with him. In our retirement, we are apt to forget, till expressly reminded, the importance of distinctions of rank and property in society, so nearly as they vanish in our survey of life, in comparison with moral differences; and, in like manner, we have to recall an almost lost idea, that death is an awkward topic, except in the abstract, when

our casual mention of a will, or of some transaction to follow our death, introduces an awe and constraint into conversation."

And again, in reference to dear friends who have felt with her all her feelings, and have now gone before her to rest, what beautiful thoughts are these! If such departures form, for the healthful, a link with the Unseen, how much more do they heighten the invalid's anticipations of future things:

"Perhaps the familiarity of the idea of death is by nothing so much enhanced to us as by the departure before us of those who have sympathized in our prospect. The close domestic interest thus imparted to that other life is such as I certainly never conceived of when in health, and such as I observe people in health do not conceive of now. It seems but the other day that I was receiving letters of sympathy and solace, and also of religious and philosophical investigation as to how life here and hereafter appeared to me; letters which told of activity, of labors, and journeyings, which humbled me by a sense of idleness and uselessness, while *they* spoke of humbling feelings as regarding the privileges of my seclusion. All this is as if it were yesterday; and now, these correspondents have been gone for years. For years we have thought of them as knowing 'the grand secret,' as familiarized with those scenes we are for ever prying into, while I lie no wiser (in such a comparison) than when they endeavoured to learn somewhat of these matters from me. And besides these close and dear companions, what departures are continually taking place! Every new year there are several—friends, acquaintances, or strangers—who shake their heads when I am mentioned, in friendly regret at another year opening before me without prospect of health—who sends me comforts or luxuries, or words of sympathy, amidst the pauses of their busy lives; and before another year comes round, they have dropped out of the world—have learned quickly far more than I can acquire by my leisure—and from being merely outside my little spot of life, have passed to above and beyond it. Little ones who speculated on me with awe—youthful ones who ministered to me with pity—busy and important persons, who gave a cordial but passing sigh to the lot of the idle and helpless; some of these have outstripped me, and left me looking wistfully after them. Such incidents make the future at least as real and familiar to me as the outside world; and every permanent invalid will say the same, and we must not be wondered at if we speak of that great interest of ours oftener, and with more familiarity than others use."

In the inquiry on temper, the writer searchingly examines the causes and modifications of the irritability produced by sickness, whether in relation to one's self, or to others; in the former case, as conducting to self-contempt, if not self-despair, and in the latter, as debarring one especially from the visits of children, "the brightest, if not the tenderest, angels of the sick-room." She shows well, how widely friends in health may err in the estimation of the sufferer's fortitude—at one time imagining that all power of endurance has passed away, because, through intense agony the soul is made to "cleave to the dust;" and at another time giving him credit for sublime patience, when he had really no cause or temptation to feel otherwise. She denies, from deep experience, the possibility of becoming inured to pain, so as to disregard it; but she would have it encountered by antagonistic forces, and thus subdued by the power of ideas. An omnipotent host of these she can call up at will, by her books and pictures, and their associations. From her couch she has but to turn her eyes to the wall above, and behold "the consolations of eighteen centuries," in one portrait—the CHRISTUS CONSOLATOR of Scheffer; and the fullness of her varied emotions she gives us in this, our last, extract:

"See what force this is, in comparison with others that are tendered for our solace! One and another, and another of our friends comes to us with an earnest pressing upon us of the 'hope of relief,' that talisman which looks so well till its virtues are tried! They tell us of renewed health and activity—of what it will be to enjoy ease again—to be useful again—to shake off our troubles, and be as we once were. We sigh, and say, it may be so; but they see that we are neither roused nor soothed by it. Then one speaks differently, tells us that we shall never be better—that we shall continue for long years as we are, or shall sink into deeper disease and death; adding, that pain, and disturbance, and death are indissolubly linked with the indestructible life of the soul, and supposing that we are willing to be conducted on in this eternal course by Him whose thoughts and ways are not as ours—but whose tenderness . . . Then how we burst in, and take up the word! What have we not to say, from the abundance of our hearts, of that benignity—that transcendent wisdom—our willingness—our eagerness—our sweet serenity—till we are silenced by our unutterable joy."

Our failing space constrains us to pass over the two remaining essays, with but a brief allusion. They relate to the perils and pains of invalidism, and its gains and privileges, respectively; and are fully equal

to any of the preceding papers. Our readers will gather from our quotations the character of the work, which is of the purest kind. It is not a volume to be read through hastily, and then laid aside; but one at once requiring, and repaying, the severest study. The mind of the writer is plainly of that stamp, which Bacon calls "full;" and her sentences are weighty in thoughts—thoughts which create thoughts. It was a notion of Shelley's, that feeling so lengthens out life, that the man of talent who dies at thirty is immeasurably older than the dullard who drags on his unmarked existence to threescore. He has, emphatically, lived more. If we might reason similarly, the writer of these essays has lived centuries. Each hour has brought its thought-life with it, and emotions sufficient for years; and hours upon hours have gone over thus with her in her solitary chamber, and she has lived them all. In the present volume we have the records of a few. She possesses, almost in intensity, that lovely, yet how fearful, gift, the capability of suffering; and she has largely used it. Yet her experiences have ever brought some good with them, vivifying the heart, not hardening it; and when they depart, she invariably discovers that they have left a blessing behind them.

We have thought for many a day—and the book before us revives the impression—that more true heroism is needed for a severe sickness, than for mingling in the terrors of a battle-field. With life beating strong in his pulses, and health careering in his veins, and now half-maddened by the braying of pibroch or clarion, the soldier rushes against his foeman—determined to "do or die." If he possesses a minute to think, his memories are thronged with the *vivas* of his countrymen, and the undying remembrances of generations to come; and danger, and wounds, and death are disregarded, when he feels that his name shall yet be a household word. But oh, how changed is every thing, when with nerves unstrung, and health—that life of life—departed, we have to encounter the enemy amidst the heart-depressing silence of the sick-room! The trial to be undergone is not a whit the less fiery, while the power and stimulant to endure it are wanting. Blessed be God for it, a new series of helps then comes in; and when the sun of this world has gone down, it is not darkness rules omnipotent, but the moon and stars arise in heaven to guide the wanderer.

We reluctantly close this beautiful volume, only to make it the frequent companion of our own leisure hours. It needs no further exposition, and what we have extracted will sufficiently plead its cause. We have only to add that the gifted writer is, we understand, Harriet Martineau.

THE ORIGIN OF THE HUMMING-BIRDS.

From the Dublin University Magazine.

WHEN Saint Patrick preached in the Emerald Isle,
The Fairies that haunted the green,
And their revels had held, in olden time,
Were filled with envy and spleen.

So they went where the water-lilies float,
On the edge of the shallow bay,
And they chose themselves each a little boat,
To carry them far away.

Merrily now that little fleet
Bounds o'er the waters blue;
Boldly the fairies have taken their seat,
Each in her light canoe.

They gave to their Queen the largest flower,
Their perilous course to guide;
And after her, like a snowy shower,
The tiny vessels glide.

The eddying ripples that bore them along,
A murmuring melody played;
And the fairies, who knew the words of its song,
A whispering answer made.

The waters are hurrying away to the south,
And bear them on with their tide,
Till safely they reach the river's mouth,
And float on the ocean wide.

Though many a day and night they sailed,
Warmly the sunshine fell,
For the might of the winds and waves was stayed
By the power of their magic spell.

That magic spell has banished the night,
While their westward course they take,
For a glorious trail of burnished light
Is following in their wake.

The fairies have reached the coral strand,
And left the lily-flowers;
They fly away in a merry band
To the pleasant citron bowers.

And the humming-birds seen in that sunny clime,
Sparkling with rainbow hues,
Are the Fairies who left the Emerald Isle,
In their lily-white canoes.

H. B.

ANIMAL MAGNETISM: PREVISION.

From the Spectator.

[Skeptical as we are on this subject, we have no hesitation in printing, without comment, the following case; which proceeds from a gentleman well known to us for habits of careful observation and for scrupulous veracity. We admit it as a record of a singular *fact*, whatever may be the explanation of which it is susceptible.]

TO THE EDITOR OF THE SPECTATOR.

Clapham New Park, 18th January, 1844.

DEAR SIR: — Puzzled by the conflicting statements put forward on all sides regarding Animal Magnetism, I resolved a year or two back, to seek by personal experiment a solution which I had in vain endeavored to arrive at from the opinions of others. The result convinced me, not only that Animal Magnetism is a truth, but that it is one which, although productive of danger in the hands of inexperienced persons, may be turned to the happiest account as a remedy for many human ills.

Have you courage to give insertion to the following case? It is so singular that I can hardly expect any one to receive it without considerable hesitation; and yet, as I am able to pledge myself to the strict accuracy of its details, and to the respectability of station and high moral worth of the parties to whom it refers, I feel desirous that it should be widely known.

On Monday the 25th December, I magnetized Mrs. H——, a married lady, twenty-eight years of age. She had been magnetized at intervals during the preceding year, altogether about six times. Upon each occasion she had manifested some degree of lucidity; and in the only instance when the experiment was tried, she had answered readily to the action of my hand upon the various phrenological organs. On the present occasion I magnetized her solely for the improvement of her health, as she was suffering from weakness and a pain in the breast, the result of a confinement eight weeks back. In other respects her health was good.

In less than two minutes from the commencement of the magnetizing process, she passed into a state of somnambulism. I then addressed her—"How do you feel?" She made no answer. I repeated the question two or three times, without success; but in a few moments she exclaimed, with an expression of great anguish—"Oh, pretty well: but I shall soon be dreadfully ill."

"When shall you be ill? now, while you are being magnetized?"—"No, in two days time."

"At what hour?"—"Three in the afternoon."

"Can nothing be done to avert it?"—"Nothing."

"What will it result from? an accident, or natural causes?"—"Natural causes."

"Can you tell me any thing that should be done? Will magnetism afford you service?"—"Yes: it cannot avert the attack, but it may do much good. It will be a spasmodic attack, and after a little while it will extend to the heart. The heart will not be originally affected; but the violence of the suffering will cause it to be affected sympathetically, and there will then be danger. Magnetism may remove this."

"And will it not remove the other sufferings?"—"No." Then, after a pause, she added—"it cannot remove them entirely; but I think it may mitigate them."

"At what time after the attack should I commence the magnetic passes?"—"In about half an hour."

"How long will the attack last?"—"From an hour to an hour and a quarter. It will be dreadfully severe; but it will not prove fatal. I shall have more of them. I have much suffering to undergo."

"When will the next attack take place?"—"I cannot see."

"What description of passes should I make on Wednesday, in order to relieve the heart?"—"Commence just under the heart, and make long passes to the feet."

"During what time am I to continue them?"—"About five minutes. You must also make passes across my back, if possible."

"How long will it be before you cease to suffer from these attacks?"—"About eight months."

"Will magnetism benefit you during that time?"—"Materially."

She still manifested much apprehension and anguish. "Come," I said, "you must not be sad. I am sure that you can bear pain with patience; and, as it will all end well, you must not give way to despondency."

"Ah!" she exclaimed, "I think of my children, and my husband—I know what he will feel."

I now ceased speaking to her for a minute or two: afterwards I said, "You must tell me if you desire to say any thing more, or if you would rather sleep?"—"I think you had better awaken me."

I *de*magnetized her accordingly. She awoke instantly, and (as on all former occasions) totally unconscious of having uttered a single word. She said, however, that she was not so much refreshed as usual, and that her head felt as if she had been engaged in the most intense thought. To relieve this, I magnetized her again for a few minutes; and when she was again awakened, she stated herself perfectly restored. I then took my leave; previously agreeing with Mr. H—— that no intimation should be given to his wife of what had passed.

On the following day, I saw Mr. H——; when he stated, that during the preceding evening his wife had enjoyed excellent spirits, and that she still continued in a satisfactory state. On the Wednesday morning, he told me that he had left her in apparently good

health, excepting that she seemed in a state of depression which almost caused him to apprehend that her prediction would be verified. She was herself, however, free from any anticipation of evil.

In the afternoon I proceeded to her house, intending to reach it about half-past three, which according to her prediction would be half an hour after the commencement of the attack, the time at which she had stated that magnetism should be resorted to. Having, however, little expectation that my services would be required, (since I was inclined to regard her forebodings merely as the result of a momentary sadness,) I did not pay any particular attention to punctuality, and it was twenty-two minutes to four when I arrived.

I found her extended upon a sofa, in the severest agony. Her pain drew from her repeated cries, and I learned that she had been seized with a violent spasmodic affection.

I immediately commenced making the passes below the heart, which she had directed during her somnambulism on the preceding Monday.

"Does that give you relief?"—"Oh yes; it greatly relieves the heart."

I then raised her to a sitting posture, and commenced the passes across her back.

"Oh! that gives still more relief—it takes it entirely away from the left side; but the general pain remains the same."

She sank, apparently still suffering most severely from attacks of pain in the epigastric region, which seemed to threaten suffocation. She began, however, after I had made a few passes, to experience some short intervals of ease. During one of them I asked, "At what time were you attacked?"—"Half an hour or three-quarters of an hour before you came; nearer three-quarters of an hour."

"Was it sudden?"—"Quite. I was in the passage, and was obliged to call one of the servants to help me to this room. It seemed to suspend animation. In about twenty minutes, or more, it attacked my heart; the blood seemed to fill my head, and I was much alarmed. It continued till you came; my sufferings were dreadful: but now the pains seem no longer to affect the heart."

She still continued to experience paroxysms, which I was only able partially to relieve. At intervals she exclaimed, "Oh, how fortunate you happened to call. I feel as if you had saved me."

She complained of fulness of the head, and directed me to make two or three passes over her forehead; which gave her instant relief. At length, at about six or seven minutes past four, the pains seemed rapidly to subside. She fell into a calm sleep, her countenance assuming an expression of perfect composure; and from this, at about twenty minutes past four, she awakened in good spirits, and, although greatly exhausted, perfectly free from pain.

She continued to dwell on the "fortunate" circumstance of my having called; and I left her in the full belief that the visit had been an accidental one.

Since the above occasion she has been magnetized several times; and she now predicts with rigid accuracy the state of her health for several consecutive days. On the 7th of this month, she announced a slight attack to occur at eleven o'clock in the morning of the 11th, which would not extend to the heart, and another severe attack at three P. M. on the 15th, in which that organ would again be compromised. On both occasions the prediction was fulfilled even in its minutest particulars.

I may mention, in conclusion, that until the attack above described, she had never experienced any indisposition in which the heart was supposed to be in the slightest degree affected.

I am, dear Sir, very faithfully yours, S.

HYMN TO THE SEA.

From the Dublin University Magazine.

ROLL on, roll on, thou "melancholy sea,"
That bearest on thy breast my love from me;
I stand beside thee, and I gaze upon
The fading vessel that will soon be gone.
Oh! bear him safely, though away from me;
Rage not in storms, but murmur tranquilly;
Make him remember her who thinks on him,
And weeps, and watches, till her eyes grow dim—
Thou melancholy sea!

Blue sea, I chide thee not, though I am sad,
And all in mournful hues thy waves seem clad;
But once I loved the surging billows' spray,
And thought their music ever blithe and gay;
Now I am sorrowful, and in thy moan
I think I hear a drowning sailor's groan;
Thy waters leap on high, but seem to me
To sing of shipwrecks with a fiendish glee—
Thou melancholy sea!

Roll on, roll on, ye light and sportive waves,
Ye look not as ye roll'd o'er sailors' graves:—
And I do smile, and jest, and gayly sing,
To hide the deep-felt pang my heart doth wring.
Like thee, blue sea, beneath a smiling face,
I bear deep anguish none may haply trace;
A careless mien, and jesting tongue may hide
Griefs, like sunk rocks beneath thy swelling tide—
Thou melancholy sea!

Bear on that barque, and take her safe to port,
Change not to rudeness thy now graceful sport:
In fervent prayer I kneel upon thy shore,
For blessings on the form I see no more.
Blue ocean! parting those who love so well,
What wonder if thy roar should seem a knell?
Too oft thou rollest o'er a cherish'd head,
Too oft our lov'd ones find an ocean bed—
Thou melancholy sea!